ESTs AND ENCODED HUMAN PROTEINS

Related Applications

This application is a divisional of U.S. application Serial No. 09/621,976, filed July 21, 2000, which claims benefit of U.S. Provisional Patent Application Serial No. 60/147,499, filed August 5, 1999, the disclosure of which is incorporated herein by reference in its entirety.

The Sequence Listing for this application is on duplicate compact discs labeled "Copy 1" and "Copy 2". Copy 1 and Copy 2 each contain only one file named "seqlist-12Sept2003.txt" which was created on September 12, 2003. The file is 15,126 KB. The entire contents of each of the computer discs are incorporated herein by reference in their entireties.

Background of the Invention

The estimated 50,000-100,000 genes scattered along the human chromosomes offer tremendous promise for the understanding, diagnosis, and treatment of human diseases. In addition, probes capable of specifically hybridizing to loci distributed throughout the human genome find applications in the construction of high resolution chromosome maps and in the identification of individuals.

In the past, the characterization of even a single human gene was a painstaking process, requiring years of effort. Recent developments in the areas of cloning vectors, DNA sequencing, and computer technology have merged to greatly accelerate the rate at which human genes can be isolated, sequenced, mapped, and characterized.

Currently, two different approaches are being pursued for identifying and characterizing the genes distributed along the human genome. In one approach, large fragments of genomic DNA are isolated, cloned, and sequenced. Potential open reading frames in these genomic sequences are identified using bioinformatics software. However, this approach entails sequencing large stretches of human DNA which do not encode proteins in order to find the protein encoding sequences scattered throughout the genome. In addition to requiring extensive sequencing, the bioinformatics software may

mischaracterize the genomic sequences obtained, *i.e.,* labeling non-coding DNA as coding DNA and vice versa.

An alternative approach takes a more direct route to identifying and characterizing human genes. In this approach, complementary DNAs (cDNAs) are synthesized from isolated messenger RNAs (mRNAs) which encode human proteins. Using this approach, sequencing is only performed on DNA which is derived from protein coding portions of the genome. Often, only short stretches of the cDNAs are sequenced to obtain sequences called expressed sequence tags (ESTs). The ESTs may then be used to isolate or purify extended cDNAs which include sequences adjacent to the EST sequences. The extended cDNAs may contain all of the sequence of the EST which was used to obtain them or only a portion of the sequence of the EST which was used to obtain them. In addition, the extended cDNAs may contain the full coding sequence of the gene from which the EST was derived or, alternatively, the extended cDNAs may include portions of the coding sequence of the gene from which the EST was derived. It will be appreciated that there may be several extended cDNAs which include the EST sequence as a result of alternate splicing or the activity of alternative promoters. Alternatively, ESTs having partially overlapping sequences may be identified and contigs comprising the consensus sequences of the overlapping ESTs may be identified.

In the past, these short EST sequences were often obtained from oligo-dT primed cDNA libraries. Accordingly, they mainly corresponded to the 3' untranslated region of the mRNA. In part, the prevalence of EST sequences derived from the 3' end of the mRNA is a result of the fact that typical techniques for obtaining cDNAs, are not well suited for isolating cDNA sequences derived from the 5' ends of mRNAs (Adams *et al., Nature* **377**:3-174, 1996, Hillier *et al., Genome Res.* **6**:807-828, 1996).

In addition, in those reported instances where longer cDNA sequences have been obtained, the reported sequences typically correspond to coding sequences and do not include the full 5' untranslated region (5'UTR) of the mRNA from which the cDNA is derived. Indeed, 5'UTRs have been shown to affect either the stability or translation of mRNAs. Thus, regulation of gene expression may be achieved through the use of alternative 5'UTRs as shown, for instance, for the translation of the tissue inhibitor of

metalloprotease mRNA in mitogenically activated cells (Waterhouse *et al, J Biol Chem.* **265**:5585-9. 1990). Furthermore, modification of 5'UTR through mutation, insertion or translocation events may even be implied in pathogenesis. For instance, the fragile X syndrome, the most common cause of inherited mental retardation, is partly due to an insertion of multiple CGG trinucleotides in the 5'UTR of the fragile X mRNA resulting in the inhibition of protein synthesis via ribosome stalling (Feng *et al, Science* **268**:731-4, 1995). An aberrant mutation in regions of the 5'UTR known to inhibit translation of the proto-oncogene *c-myc* was shown to result in upregulation of C-myc protein levels in cells derived from patients with multiple myelomas (Willis *et al, Curr Top Microbiol Immunol* **224**:269-76, 1997). In addition, the use of oligo-dT primed cDNA libraries does not allow the isolation of complete 5'UTRs since such incomplete sequences obtained by this process may not include the first exon of the mRNA, particularly in situations where the first exon is short. Furthermore, they may not include some exons, often short ones, which are located upstream of splicing sites. Thus, there is a need to obtain sequences derived from the 5' ends of mRNAs.

While many sequences derived from human chromosomes have practical applications, approaches based on the identification and characterization of those chromosomal sequences which encode a protein product are particularly relevant to diagnostic and therapeutic uses. In some instances, the sequences used in such therapeutic or diagnostic techniques may be sequences which encode proteins which are secreted from the cell in which they are synthesized. Those sequences encoding secreted proteins as well as the secreted proteins themselves, are particularly valuable as potential therapeutic agents. Such proteins are often involved in cell to cell communication and may be responsible for producing a clinically relevant response in their target cells. In fact, several secretory proteins, including tissue plasminogen activator, G-CSF, GM-CSF, erythropoietin, human growth hormone, insulin, interferon-α, interferon-β, interferon-γ, and interleukin-2, are currently in clinical use. These proteins are used to treat a wide range of conditions, including acute myocardial infarction, acute ischemic stroke, anemia, diabetes, growth hormone deficiency, hepatitis, kidney carcinoma, chemotherapy-induced neutropenia and multiple sclerosis. For these reasons, extended cDNAs encoding secreted proteins or portions thereof represent a valuable source of therapeutic agents. Thus, there

is a need for the identification and characterization of secreted proteins and the nucleic acids encoding them.

In addition to being therapeutically useful themselves, secretory proteins include short peptides, called signal peptides, at their amino termini which direct their secretion. These signal peptides are encoded by the signal sequences located at the 5' ends of the coding sequences of genes encoding secreted proteins. These signal peptides can be used to direct the extracellular secretion of any protein to which they are operably linked. In addition, portions of the signal peptides called membrane-translocating sequences, may also be used to direct the intracellular import of a peptide or protein of interest. This may prove beneficial in gene therapy strategies in which it is desired to deliver a particular gene product to cells other than the cells in which it is produced. Signal sequences encoding signal peptides also find application in simplifying protein purification techniques. In such applications, the extracellular secretion of the desired protein greatly facilitates purification by reducing the number of undesired proteins from which the desired protein must be selected. Thus, there exists a need to identify and characterize the 5' portions of the genes for secretory proteins which encode signal peptides.

Sequences coding for non-secreted proteins may also find application as therapeutics or diagnostics. In particular, such sequences may be used to determine whether an individual is likely to express a detectable phenotype, such as a disease, as a consequence of a mutation in the coding sequence of a protein. In instances where the individual is at risk of suffering from a disease or other undesirable phenotype as a result of a mutation in such a coding sequence, the undesirable phenotype may be corrected by introducing a normal coding sequence using gene therapy. Alternatively, if the undesirable phenotype results from overexpression of the protein encoded by the coding sequence, expression of the protein may be reduced using antisense or triple helix based strategies.

The secreted or non-secreted human polypeptides encoded by the coding sequences may also be used as therapeutics by administering them directly to an individual having a condition, such as a disease, resulting from a mutation in the sequence encoding the polypeptide. In such an instance, the condition can be cured or ameliorated by administering the polypeptide to the individual.

In addition, the secreted or non-secreted human polypeptides or portions thereof may be used to generate antibodies useful in determining the tissue type or species of origin of a biological sample. For example, the antibodies may be used to distinguish between human and non-human cells and tissues or to distinguish between human tissues that do and do not express the polypeptides.The antibodies may also be used to determine the cellular localization of the secreted or non-secreted human polypeptides or the cellular localization of polypeptides which have been fused to the human polypeptides. In addition, the antibodies may also be used in immunoaffinity chromatography techniques to isolate, purify, or enrich the human polypeptide or a target polypeptide which has been fused to the human polypeptide. Public information on the number of human genes for which the promoters and upstream regulatory regions have been identified and characterized is quite limited. In part, this may be due to the difficulty of isolating such regulatory sequences. Upstream regulatory sequences such as transcription factor binding sites are typically too short to be utilized as probes for isolating promoters from human genomic libraries. Recently, some approaches have been developed to isolate human promoters. One of them consists of making a CpG island library (Cross *et al., Nature Genetics* **6**: 236-244, 1994). The second consists of isolating human genomic DNA sequences containing SpeI binding sites by the use of SpeI binding protein (Mortlock *et al., Genome Res.* **6**:327-335, 1996). Both of these approaches have their limits due to a lack of specificity and of comprehensiveness. Thus, there exists a need to identify and systematically characterize the 5' portions of the genes.

The present 5' ESTs may be used to efficiently identify and isolate 5'UTRs and upstream regulatory regions which control the location, developmental stage, rate, and quantity of protein synthesis, as well as the stability of the mRNA. Once identified and characterized, these regulatory regions may be utilized in gene therapy or protein purification schemes to obtain the desired amount and locations of protein synthesis or to inhibit, reduce, or prevent the synthesis of undesirable gene products. The regulatory regions may also be used for expressing polypeptides in cell types from which the 5' ESTs of the present invention were isolated.

In addition, ESTs containing the 5' ends of protein genes may include sequences useful as probes for chromosome mapping and the identification of individuals. Thus,

there is a need to identify and characterize the sequences upstream of the 5' coding sequences of genes.

Summary of the Invention

The present invention relates to purified, isolated, or enriched 5' ESTs which include sequences derived from the authentic 5' ends of their corresponding mRNAs. The term "corresponding mRNA" refers to the mRNA which was the template for the cDNA synthesis which produced the 5' EST. These sequences will be referred to hereinafter as "5' ESTs". The present invention also includes purified, isolated or enriched nucleic acids comprising contigs assembled by determining a consensus sequences from a plurality of ESTs containing overlapping sequences. These contigs will be referred to herein as "consensus contigated ESTs."

As used herein, the term "purified" does not require absolute purity; rather, it is intended as a relative definition. Individual 5' EST clones isolated from a cDNA library have been conventionally purified to electrophoretic homogeneity. The sequences obtained from these clones could not be obtained directly either from the library or from total human DNA. The cDNA clones are not naturally occurring as such, but rather are obtained via manipulation of a partially purified naturally occurring substance (messenger RNA). The conversion of mRNA into a cDNA library involves the creation of a synthetic substance (cDNA) and pure individual cDNA clones can be isolated from the synthetic library by clonal selection. Thus, creating a cDNA library from messenger RNA and subsequently isolating individual clones from that library results in an approximately 10^4-10^6 fold purification of the native message. Purification of starting material or natural material to at least one order of magnitude, preferably two or three orders, and more preferably four or five orders of magnitude is expressly contemplated. Alternatively, purification may be expressed as "at least" a percent purity relative to heterologous polynucleotides (DNA, RNA or both). As a preferred embodiment, the polynucleotides of the present invention are at least; 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 95%, 96%, 96%, 98%, 99%, or 100% pure relative to heterologous polynucleotides. As a further preferred embodiment the polynucleotides have an "at least" purity ranging from any number, to the thousandth position, between 90% and 100% (e.g., 5' EST at

least 99.995% pure) relative to heterologous polynucleotides. Additionally, purity of the polynucleotides may be expressed as a percentage (as described above) relative to all materials and compounds other than the carrier solution. Each number, to thethousandth position, may be claimed as individual species of purity.

As used herein, the term "isolated" requires that the material be removed from its original environment (e.g., the natural environment if it is naturally occurring). For example, a naturally-occurring polynucleotide present in a living animal is not isolated, but the same polynucleotide, separated from some or all of the coexisting materials in the natural system, is isolated. Specifically excluded from the definition of "isolated" are: naturally occurring chromosomes (e.g., chromosome spreads) artificial chromosome libraries, genomic libraries, and cDNA libraries that exist either as an in vitro nucleic acid preparation or as a transfected/transformed host cell preparation, wherein the host cells are either an in vitro heterogeneous preparation or plated as a heterogeneous population of single colonies. Also specifically excluded are the above libraries wherein the 5' EST makes up less than 5% of the number of nucleic acid inserts in the vector molecules. Further specifically excluded are whole cell genomic DNA or whole cell RNA preparations (including said whole cell preparations which are mechanically sheared or enzymaticly digested). Further specifically excluded are the above whole cell preparations as either an in vitro preparation or as a heterogeneous mixture separated by electrophoresis (including blot transfers of the same) wherein the polynucleotide of the invention have not been further separated from the heterologous polynucleotides in the electrophoresis medium (e.g., further separating by excising a single band from a heterogeneous band population in an agarose gel or nylon blot).

As used herein, the term "recombinant" means that the 5' EST is adjacent to "backbone" nucleic acid to which it is not adjacent in its natural environment. Additionally, to be "enriched" the 5' ESTs will represent 5% or more of the number of nucleic acid inserts in a population of nucleic acid backbone molecules. Backbone molecules according to the present invention include nucleic acids such as expression vectors, self-replicating nucleic acids, viruses, integrating nucleic acids, and other vectors or nucleic acids used to maintain or manipulate a nucleic acid insert of interest. Preferably, the enriched 5' ESTs represent 15% or more of the number of nucleic acid

inserts in the population of recombinant backbone molecules. More preferably, the enriched 5' ESTs represent 50% or more of the number of nucleic acid inserts in the population of recombinant backbone molecules. In a highly preferred embodiment, the enriched 5' ESTs represent 90% or more (including any integer between 90 and 100%, to the thousandth position, e.g., 99.5%) of the number of nucleic acid inserts in the population of recombinant backbone molecules.

"Stringent", "moderate," and "low" hybridization conditions are as defined below.

The term "polypeptide" refers to a polymer of amino acids without regard to the length of the polymer; thus, peptides, oligopeptides, and proteins are included within the definition of polypeptide. This term also does not specify or exclude chemical or post-expression modifications of the polypeptides of the invention, although chemical or post-expression modifications of these polypeptides may be included excluded as specific embodiments. Therefore, for example, modifications to polypeptides which include the covalent attachment of glycosyl groups, acetyl groups, phosphate groups, lipid groups and the like are expressly encompassed by the term polypeptide. Further, polyeptides with these modifications may be specified as individual species to be included or excluded from the present invention. The natural or other chemical modifications, such as those listed in example above, can occur anywhere in a polypeptide, including the peptide backbone, the amino acid side-chains and the amino or carboxyl termini. It will be appreciated that the same type of modification may be present in the same or varying degrees at several sites in a given polypeptide. Also, a given polypeptide may contain many types of modifications. Polypeptides may be branched , for example, as a result of ubiquitination, and they may be cyclic, with or without branching. Modifications include acetylation, acylation, ADP-ribosylation, amidation, covalent attachment of flavin, covalent attachment of a heme moiety, covalent attachment of a nucleotide or nucleotide derivative, covalent attachment of a lipid or lipid derivative, covalent attachment of phosphotidylinositol, cross-linking, cyclization, disulfide bond formation, demethylation, formation of covalent cross-links, formation of cysteine, formation of pyroglutamate, formylation, gamma-carboxylation, glycosylation, GPI anchor formation, hydroxylation, iodination, methylation, myristoylation, oxidation, pegylation, proteolytic processing, phosphorylation,

prenylation, racemization, selenoylation, sulfation, transfer-RNA mediated addition of amino acids to proteins such as arginylation, and ubiquitination. (See, for instance, PROTEINS - STRUCTURE AND MOLECULAR PROPERTIES, 2nd Ed., T. E. Creighton, W. H. Freeman and Company, New York (1993); POSTTRANSLATIONAL COVALENT MODIFICATION OF PROTEINS, B. C. Johnson, Ed., Academic Press, New York, pgs. 1-12 (1983); Seifter et al., Meth Enzymol 182:626-646 (1990); Rattan et al., Ann NY Acad Sci 663:48-62 (1992).). Also included within the definition are polypeptides which contain one or more analogs of an amino acid (including, for example, non-naturally occurring amino acids, amino acids which only occur naturally in an unrelated biological system, modified amino acids from mammalian systems etc.), polypeptides with substituted linkages, as well as other modifications known in the art, both naturally occurring and non-naturally occurring.

As used interchangeably herein, the terms “nucleic acids", “oligonucleotides", and “polynucleotides” include RNA or DNA (either double or single stranded (coding or antisense), or RNA/DNA hybrid sequences of more than one nucleotide in either single chain or duplex form (although each of the above species may be particularly specified). The term “nucleotide” as used herein as an adjective to describe molecules comprising RNA, DNA, or RNA/DNA hybrid sequences of any length in single-stranded or duplex form. The term “nucleotide” is also used herein as a noun to refer to individual nucleotides or varieties of nucleotides, meaning a molecule, or individual unit in a larger nucleic acid molecule, comprising a purine or pyrimidine, a ribose or deoxyribose sugar moiety, and a phosphate group, or phosphodiester linkage in the case of nucleotides within an oligonucleotide or polynucleotide. Although the term “nucleotide” is also used herein to encompass “modified nucleotides” which comprise at least one modifications (a) an alternative linking group, (b) an analogous form of purine, (c) an analogous form of pyrimidine, or (d) an analogous sugar, for examples of analogous linking groups, purine, pyrimidines, and sugars see for example PCT publication No. WO 95/04064. Preferred modifications of the present invention include, but are not limited to, 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xantine, 4-acetylcytosine, 5-(carboxyhydroxylmethyl) uracil,

5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v) ybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid, 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, and 2,6-diaminopurine. Methylenemethylimino linked oligonucleosides as well as mixed backbone compounds having, may be prepared as described in U.S. Pat. Nos. 5,378,825; 5,386,023; 5,489,677; 5,602,240; and 5,610,289. Formacetal and thioformacetal linked oligonucleosides may be prepared as described in U.S. Pat. Nos. 5,264,562 and 5,264,564. Ethylene oxide linked oligonucleosides may be prepared as described in U.S. Pat. No. 5,223,618. Phosphinate oligonucleotides may be prepared as described in U.S. Pat. No. 5,508,270.. Alkyl phosphonate oligonucleotides may be prepared as described in U.S. Pat. No. 4,469,863. 3'-Deoxy-3'-methylene phosphonate oligonucleotides may be prepared as described in U.S. Pat. Nos. 5,610,289 or 5,625,050. Phosphoramidite oligonucleotides may be prepared as described in U.S. Pat. No. 5,256,775 or U.S. Pat. No. 5,366,878. Alkylphosphonothioate oligonucleotides may be prepared as described in published PCT applications WO 94/17093 and WO 94/02499. 3'-Deoxy-3'-amino phosphoramidate oligonucleotides may be prepared as described in U.S. Pat. No. 5,476,925. Phosphotriester oligonucleotides may be prepared as described in U.S. Pat. No. 5,023,243. Borano phosphate oligonucleotides may be prepared as described in U.S. Pat. Nos. 5,130,302 and 5,177,198.

The polynucleotide sequences of the invention may be prepared by any known method, including synthetic, recombinant, *ex vivo* generation, or a combination thereof, as well as utilizing any purification methods known in the art.

In specific embodiments, the polynucleotides of the invention are at least 15, at least 30, at least 50, at least 100, at least 125, at least 500, or at least 1000 continuous

nucleotides but are less than or equal to 300kb, 200kb, 100kb, 50kb, 10kb, 7.5kb, 5kb, 2.5kb, 2kb, 1.5kb, or 1kb in length. In a further embodiment, polynucleotides of the invention comprise a portion of the coding sequences, as disclosed herein, but do not comprise all or a portion of any intron. In another embodiment, the polynucleotides comprising coding sequences do not contain coding sequences of a genomic flanking gene (i.e., 5' or 3' to the gene of interest in the genome). In other embodiments, the polynucleotides of the invention do not contain the coding sequence of more than 1000, 500, 250, 100, 75, 50, 25, 20, 15, 10, 5, 4, 3, 2, or 1 genomic flanking gene(s).The terms "base paired" and "Watson & Crick base paired" are used interchangeably herein to refer to nucleotides which can be hydrogen bonded to one another be virtue of their sequence identities in a manner like that found in double-helical DNA with thymine or uracil residues linked to adenine residues by two hydrogen bonds and cytosine and guanine residues linked by three hydrogen bonds (See Stryer, L., *Biochemistry,* 4^{th} edition, 1995).

The terms "complementary" or "complement thereof" are used herein to refer to the sequences of polynucleotides which is capable of forming Watson & Crick base pairing with another specified polynucleotide throughout the entirety of the complementary region. For the purpose of the present invention, a first polynucleotide is deemed to be complementary to a second polynucleotide when each base in the first polynucleotide is paired with its complementary base. Complementary bases are, generally, A and T (or A and U), or C and G. "Complement" is used herein as a synonym from "complementary polynucleotide", "complementary nucleic acid" and "complementary nucleotide sequence". These terms are applied to pairs of polynucleotides based solely upon their sequences and not any particular set of conditions under which the two polynucleotides would actually bind. Preferably, a "complementary" sequence is a sequence which an A at each position where there is a T on the opposite strand, a T at each position where there is an A on the opposite strand, a G at each position where there is a C on the opposite strand and a C at each position where there is a G on the opposite strand.

The terms "vertebrate nucleic acid" and "vertebrate polypeptide" are used herein to refer to any nucleic acid or polypeptide respectively which are derived from a vertebrate

species including birds and more usually mammals, preferably primates such as humans, farm animals such as swine, goats, sheep, donkeys, and horses, rabbits or rodents, more preferably rats or mice. As used herein, the term "vertebrate" is used to refer to any vertebrate, preferably a mammal. The term "vertebrate" expressly embraces human subjects unless preceded with the term "non-human".

Thus, 5' ESTs in cDNA libraries in which one or more 5' ESTs make up 5% or more of the number of nucleic acid inserts in the backbone molecules are "enriched recombinant 5' ESTs" as defined herein. Likewise, 5' ESTs in a population of plasmids in which one or more 5' ESTs of the present invention have been inserted such that they represent 5% or more of the number of inserts in the plasmid backbone are "enriched recombinant 5' ESTs" as defined herein. However, 5' ESTs in cDNA libraries in which 5' ESTs constitute less than 5% of the number of nucleic acid inserts in the population of backbone molecules, such as libraries in which backbone molecules having a 5' EST insert are extremely rare, are not "enriched recombinant 5' ESTs."

The term "capable of hybridizing to the polyA tail of said mRNA" refers to and embraces all primers containing stretches of thymidine residues, so-called oligo(dT) primers, that hybridize to the 3' end of eukaryotic poly(A)+ mRNAs to prime the synthesis of a first cDNA strand. Techniques for generating said oligo(dT) primers and hybridizing them to mRNA to subsequently prime the reverse transcription of said hybridized mRNA to generate a first cDNA strand are well known to those skilled in the art and are described *in Current Protocols in Molecular Biology*, John Wiley and Sons, Inc. 1997 and Sambrook *et al., Molecular Cloning: A Laboratory Manual*, Second Edition, Cold Spring Harbor Laboratory Press, 1989, the entire disclosures of which are incorporated herein by reference. Preferably, said oligo(dT) primers are present in a large excess in order to allow the hybridization of all mRNA 3'ends to at least one oligo(dT) molecule. The priming and reverse transcription step are preferably performed between 37°C and 55°C depending on the type of reverse transcriptase used.

Preferred oligo(dT) primers for priming reverse transcription of mRNAs are oligonucleotides containing a stretch of thymidine residues of sufficient length to hybridize specifically to the polyA tail of mRNAs, preferably of 12 to 18 thymidine residues in length. More preferably, such oligo(T) primers comprise an additional

sequence upstream of the poly(dT) stretch in order to allow the addition of a given sequence to the 5'end of all first cDNA strands which may then be used to facilitate subsequent manipulation of the cDNA. Preferably, this added sequence is 8 to 60 residues in length. For instance, the addition of a restriction site in 5' of cDNAs facilitates subcloning of the obtained cDNA. Alternatively, such an added 5'end may also be used to design primers of PCR to specifically amplify cDNA clones of interest.

In some embodiments, the present invention relates to 5' ESTs which are derived from genes encoding secreted proteins. As used herein, a "secreted" protein is one which, when expressed in a suitable host cell, is transported across or through a membrane, including transport as a result of signal peptides in its amino acid sequence. "Secreted" proteins include without limitation proteins secreted wholly (e.g. soluble proteins), or partially (e.g. receptors) from the cell in which they are expressed. "Secreted" proteins also include without limitation proteins which are transported across the membrane of the endoplasmic reticulum.

Such 5' ESTs include nucleic acid sequences, called signal sequences, which encode signal peptides which direct the extracellular secretion of the proteins encoded by the genes from which the 5' ESTs are derived. Generally, the signal peptides are located at the amino termini of secreted proteins. Polypeptides comprising these signal peptides (as delineated in the sequence listing), and polynucleotides encoding the same, are preferred embodiments of the present invention.

Secreted proteins are translated by ribosomes associated with the "rough" endoplasmic reticulum. Generally, secreted proteins are co-translationally transferred to the membrane of the endoplasmic reticulum. Association of the ribosome with the endoplasmic reticulum during translation of secreted proteins is mediated by the signal peptide. The signal peptide is typically cleaved following its co-translational entry into the endoplasmic reticulum. After delivery to the endoplasmic reticulum, secreted proteins may proceed through the Golgi apparatus. In the Golgi apparatus, the proteins may undergo post-translational modification before entering secretory vesicles which transport them across the cell membrane.

The 5' ESTs of the present invention have several important applications. For example, the 5'EST sequences of the sequence listing, and fragments thereof, may be used

to distinguish human tissues or cells from non-human tissues or cells and to distinguish between human tissues or cells that do and do not express polynucleotides comprising the 5' EST sequences of the present invention. By knowing the tissue expression pattern of the 5' EST sequences, either through routine experimentation or by using the Tables herein, the polynucleotides of the present invention may be used in methods of determining the identity of an unknown tissue or cell sample. For example, if a 5' EST is expressed in a particular tissue or cell type, as shown in the Tables below, and the unknown tissue or cell sample does not express the 5' EST, it may be inferred that the unknown tissue or cells are either not human or not the same human tissue or cell type as that which expresses the 5' EST. Conversely, if a 5' EST is not expressed in a particular tissue or cell type, as shown in the Tables below, and the unknown tissue or cell sample does express the 5' EST, it may be inferred that the unknown tissue or cells are either not human or not the same human tissue or cell type as that which does not express the 5' EST. The above procedure may be used for either homogeneous tissue or cell samples or heterogeneous tissue or cell samples since one may only want to narrow the identity to human or non-human or to a tissue type. Further assays may be used in conjunction with the above methods to narrow or confirm the identification process. These methods of determining tissue or cell identity are based on methods which detect the presence or absence of the 5' EST sequences in a tissue or cell sample using methods well know in the art (e.g., hybridization or PCR methods).

In other useful applications, fragments of the 5' EST sequences encoding signal peptides as well as degenerate polynucleotides encoding the same, may be ligated to sequences encoding either the polypeptide from the same gene or to sequences encoding a heterologous polypeptide to facilitate secretion The 5'EST sequences, and fragments thereof, may also be used to obtain and express cDNA clones which include the full protein coding sequences of the corresponding gene products, including the authentic translation start sites derived from the 5' ends of the coding sequences of the mRNAs from which the 5' ESTs are derived. These cDNAs will be referred to hereinafter as "full-length cDNAs." These cDNAs may also include DNA derived from mRNA sequences upstream of the translation start site. The full-length cDNA sequences may be used to express the proteins corresponding to the 5' ESTs. As discussed above, secreted proteins

and non-secreted proteins may be therapeutically important. Thus, the proteins expressed from the cDNAs may be useful in treating or controlling a variety of human conditions. The 5' ESTs may also be used to obtain the corresponding genomic DNA. The term "corresponding genomic DNA" refers to the genomic DNA which encodes the mRNA from which the 5' EST was derived.

Another use of the polynucleotides of thepresent invention is to map and clone promoter regions and open reading frames from a genomic sequence. For example, the 5' ESTs can be used in combination with the sequence information from genome sequencing projects, such as the U.S. Human Genome Project or other public and private genome sequencing projects, to map and clone regions of the genome that comprise promoters and expressed open reading frames. The polynucleotides of the present invention are particularly useful for mapping and identifying coding regions (regions containing expressed open reading frames) from a genomic sequence since the vast majority of the human genome does not encode expressed genes and because of the difficulty in identifying authentic open reading frames (open reading frames that encode expressed genes). The 5' EST sequences of the present invention can be used in conjunction with various algorithms to identify promoter or entire ORF sequences.

Alternatively, the 5' ESTs may be used to obtain and express extended cDNAs encoding portions of the protein. In the case of secreted proteins, the portions may comprise the signal peptides of the secreted proteins or the mature proteins generated when the signal peptide is cleaved off.

The present invention includes isolated, purified, or enriched "EST-related nucleic acids." The terms "isolated", "purified" or "enriched" have the meanings provided above. As used herein, the term "EST-related nucleic acids" means the nucleic acids of SEQ ID NOs. 24-3883 and 7744-19335, extended cDNAs obtainable using the nucleic acids of SEQ ID NOs. 24-3883 and 7744-19335, full-length cDNAs obtainable using the nucleic acids of SEQ ID NOs. 24-3883 and 7744-19335 or genomic DNAs obtainable using the nucleic acids of SEQ ID NOs. 24-3883 and 7744-19335. The present invention also includes the sequences complementary to, or allelic variants of, the EST-related nucleic acids.

The present invention also includes isolated, purified, or enriched "fragments of EST-related nucleic acids." The terms "isolated", "purified" and "enriched" have the meanings described above. As used herein the term "fragments of EST-related nucleic acids" means fragments comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive nucleotides of the EST-related nucleic acids to the extent that fragments of these lengths are consistent with the lengths of the particular EST-related nucleic acids being referred to. The present invention also includes the sequences complementary to the fragments of the EST-related nucleic acids. In particular, fragments of EST-related nucleic acids refer to the polynucleotides described in Tables IVa and IVb, and polynucleotides described in Tables IVa and IVb updated as defined below.

The present invention also includes isolated, purified, or enriched "positional segments of EST-related nucleic acids." The terms "isolated", "purified", or "enriched" have the meanings provided above. As used herein, the term "positional segments of EST-related nucleic acids" includes segments comprising nucleotides 1-25, 26-50, 51-75, 76-100, 101-125, 126-150, 151-175, 176-200, 201-225, 226-250, 251-300, 301-325, 326-350, 351-375, 376-400, 401-425, 426-450, 451-475, 476-500, 501-525, 526-550, 551-575, 576-600 and 601-the terminal nucleotide of the EST-related nucleic acids to the extent that such nucleotide positions are consistent with the lengths of the particular EST-related nucleic acids being referred to, and wherein position "1" is defined as the 5' most position defined in the sequence listing or Tables below. The term "positional segments of EST-related nucleic acids also includes segments comprising nucleotides 1-50, 51-100, 101-150, 151-200, 201-250, 251-300, 301-350, 351-400, 401-450, 450-500, 501-550, 551-600 or 601-the terminal nucleotide of the EST-related nucleic acids to the extent that such nucleotide positions are consistent with the lengths of the particular EST-related nucleic acids being referred to. The term "positional segments of EST-related nucleic acids" also includes segments comprising nucleotides 1-100, 101-200, 201-300, 301-400, 501-500, 500-600, or 601-the terminal nucleotide of the EST-related nucleic acids to the extent that such nucleotide positions are consistent with the lengths of the particular EST-related nucleic acids being referred to. In addition, the term "positional segments of EST-related nucleic acids" includes segments comprising nucleotides 1-200, 201-400, 400-600, or

601-the terminal nucleotide of the EST-related nucleic acids to the extent that such nucleotide positions are consistent with the lengths of the particular EST related nucleic acids being referred to. The present invention also includes the sequences complementary to the positional segments of EST-related nucleic acids.

The present invention also includes isolated, purified, or enriched "fragments of positional segments of EST-related nucleic acids." The terms "isolated", "purified", or "enriched" have the meanings provided above. As used herein, the term "fragments of positional segments of EST-related nucleic acids" refers to fragments comprising at least 8, 10, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 150, or 200 consecutive nucleotides of the positional segments of EST-related nucleic acids. The present invention also includes the sequences complementary to the fragments of positional segments of EST-related nucleic acids .

In addition to the above "positional segments of EST-related nucleic acids" and "fragments of positional segments of EST-related nucleic acids", for the nucleic acids of SEQ ID NOs. 24-3883 and 7744-19335, further preferred nucleic acids comprise at least 8 nucleotides, wherein "at least 8" is defined as any integer between 8 and the integer representing the 3' most nucleotide position in the sequence listing or Tables below. Further included are nucleic acid fragments at least 8 nucleotides in length, as described above, that are further specified in terms of their 5' and 3' position. The 5' and 3' positions are represented by the position number set forth in the sequence listing below. Therefore, every combination of a 5' and 3' nucleotide position that a fragment at least 8 contiguous nucleotides in length could occupy is included in the invention as an individual species. The polynucleotide fragment specified by 5' and 3' positions can be immediately envisaged and are therefore not individually listed solely for the purpose of not unnecessarily lengthening the specifications. It is noted that the above species of polynucleotides fragments of the present invention may alternatively be described by the formula "a to b"; where "a" equals the 5" nucleotide position and "b" equals 3 " nucleotide position of the polynucleotide fragment; and further where "a" equals an integer between 1 and the number of nucleotides of the polynucleotide sequence of the present invention minus 8, and where "b" equals an integer between 9 and the number

of nucleotides of the polynucleotide sequence of the present invention; and where "a" is an integer smaller then "b" by at least 8.

The present invention also provides for the exclusion of any polynucleotide fragments specified by 5' and 3' positions or by size in nucleotides as described above. Any number of fragments specified by 5' and 3' positions or by size in nucleotides, as described above, may be excluded.

The present invention also includes isolated or purified "EST-related polypeptides." The terms "isolated" or "purified" have the meanings provided above. As used herein, the term "EST-related polypeptides" means the polypeptides encoded by the EST-related nucleic acids, including the polypeptides of SEQ ID NOs. 3884-7743.

The present invention also includes isolated or purified "fragments of EST-related polypeptides." The terms "isolated" or "purified" have the meanings provided above. As used herein, the term "fragments of EST-related polypeptides" means fragments comprising at least 5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100, or 150 consecutive amino acids of an EST-related polypeptide to the extent that fragments of these lengths are consistent with the lengths of the particular EST-related polypeptides being referred to. In particular, fragments of EST-related polypeptides refer to polypeptides encoded by polynucleotides described in Tables IVa and IVb, and polynucleotides described in Tables IVa and IVb updated.

The present invention also includes isolated or purified "positional segments of EST-related polypeptides." As used herein, the term "positional segments of EST-related polypeptides" includes polypeptides comprising amino acid residues 1-25, 26-50, 51-75, 76-100, 101-125, 126-150, 151-175, 176-200, or 201-the C-terminal amino acid of the EST-related polypeptides to the extent that such amino acid residues are consistent with the lengths of the particular EST-related polypeptides being referred to. The term "positional segments of EST-related polypeptides also includes segments comprising amino acid residues 1-50, 51-100, 101-150, 151-200 or 201-the C-terminal amino acid of the EST-related polypeptides to the extent that such amino acid residues are consistent with the lengths of the particular EST-related polypeptides being referred to. The term "positional segments of EST-related polypeptides" also includes segments comprising amino acids 1-100 or 101-200 of the EST-related polypeptides to the extent that such

amino acid residues are consistent with the lengths of particular EST-related polypeptides being referred to. In addition, the term "positional segments of EST-related polypeptides" includes segments comprising amino acid residues 1-200 or 201-the C-terminal amino acid of the EST-related polypeptides to the extent that amino acid residues are consistent with the lengths of the particular EST related polypeptides being referred to.

The present invention also includes isolated or purified "fragments of positional segments of EST-related polypeptides." The terms "isolated" or "purified" have the meanings provided above. As used herein, the term "fragments of positional segments of EST-related polypeptides" means fragments comprising at least 5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100, or 150 consecutive amino acids of positional segments of EST-related polypeptides to the extent that fragments of these lengths are consistent with the lengths of the particular EST-related polypeptides being referred to.

In addition to the above "positional segments of EST-related polypeptides" and "fragments of positional segments of EST-related polypeptides", for the polypeptides of the present invention, further preferred polypeptides comprise at least 8 amino acids, wherein "at least 8" is defined as any integer between 8 and the integer representing the C-terminal amino acid of the polypeptide of the present invention including the polypeptide sequences of the sequence listing below. Further included are polypeptide fragments at least 8 amino acids in length, as described above, that are further specified in terms of their N-terminal and C-terminal positions. Preferred polypeptide fragment species specified by their N-terminal and C-terminal positions include the signal peptides delineated in the sequence listing below. However, included in the present invention as individual species are all polypeptide fragments, at least 5 amino acids in length, as described above, and may be particularly specified by a N-terminal and C-terminal position.

The present invention also provides for the exclusion of any fragments specified by N-terminal and C-terminal positions or by size in amino acid residues as described above. Any number of fragment species specified by N-terminal and C-terminal positions or sub-genus of fragments specified by size in amino acid residues as described above may be excluded from the present invention.

The polypeptide fragments of the present invention can be immediately envisaged using the above description and are therefore not individually listed solely for the purpose of not unnecessarily lengthening the specification. The above fragments need not be active since they would be useful, for example, inimmunoassays, in epitope mapping, epitope tagging, as vaccines, to raise antibodies, stimulate an immune response in a heterologous species, and as molecular weight markers. The above fragments may also be used to generate antibodies to a particular portion of the polypeptide. These antibodies can then be used in immunoassays well known in the art to distinguish between human and non-human cells and tissues or to determine whether cells or tissues in a biological sample are or are not of the same type which express the polypeptide of the present invention. Further preferred polypeptide fragments of the present invention comprise the signal peptides as delineated in the sequence listing. These signal peptides may be used to facilitate secretion of either the polypeptide of the same gene or a heterologous polypeptide.

The present invention also includes antibodies which specifically recognize the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides. In the case of secreted proteins, such as those of SEQ ID NOs. 5199-5919 antibodies which specifically recognize the mature protein generated when the signal peptide is cleaved may also be obtained as described below. Similarly, antibodies which specifically recognize the signal peptides of SEQ ID NOs. 3884-4243 or 5199-5919 may also be obtained.

In some embodiments and in the case of secreted proteins, the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids include a signal sequence. In other embodiments, the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids may include the full coding sequence for the protein or, in the case of secreted proteins, the full coding sequence of the mature protein (i.e. the protein generated when the signal polypeptide is cleaved off). In addition, the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids,

or fragments of positional segments of nucleic acids may include regulatory regions upstream of the translation start site or downstream of the stop codon which control the amount, location, or developmental stage of gene expression.

As discussed above, both secreted and non-secreted human proteins may be therapeutically important. Thus, the proteins expressed from the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids may be useful in treating or controlling a variety of human conditions.

The EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids may be used in forensic procedures to identify individuals or in diagnostic procedures to identify individuals having genetic diseases resulting from abnormal gene expression. In addition, the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids are useful for constructing a high resolution map of the human chromosomes.

The present invention also relates to secretion vectors capable of directing the secretion of a protein of interest. Such vectors may be used in gene therapy strategies in which it is desired to produce a gene product in one cell which is to be delivered to another location in the body. Secretion vectors may also facilitate the purification of desired proteins. The secretion vectors may also be used to express a desired protein, such as a heterologous protein, such that the protein is secreted into the culture medium, thereby facilitating purification.

The present invention also relates to expression vectors capable of directing the expression of an inserted gene in a desired spatial or temporal manner or at a desired level. Such vectors may include sequences upstream of the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids, such as promoters or upstream regulatory sequences. Preferred chimeric polypeptides, and vectors encoding the same, comprise a signal peptide set forth in the sequence listing below.

The present invention also comprises fusion vectors for making chimeric polypeptides comprising a first polypeptide and a second polypeptide. Such vectors are useful for determining the cellular localization of the chimeric polypeptides or for isolating, purifying or enriching the chimeric polypeptides.

The EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids may also be used for gene therapy to control or treat genetic diseases. In the case of secreted proteins, signal peptides may be fused to heterologous proteins to direct their extracellular secretion.

Bacterial clones containing Bluescript plasmids having inserts containing the sequence of the non-aligned 5'ESTs, also referred to as singletons, and sequences of the 5'ESTs which were aligned to yield consensus contigated 5' ESTs are presently stored at -80°C in 4% (v/v) glycerol in the inventor's laboratories under internal designations. The non-aligned 5'ESTs of the invention are those sequences which are present in the sequence listing but which identification number either corresponds to a single EST from a single tissue in the second column of Table V or is absent from the first column of Table V. The inserts may be recovered from the stored materials by growing the appropriate clones on a suitable medium. The Bluescript DNA can then be isolated using plasmid isolation procedures familiar to those skilled in the art such as alkaline lysis minipreps or large scale alkaline lysis plasmid isolation procedures. If desired the plasmid DNA may be further enriched by centrifugation on a cesium chloride gradient, size exclusion chromatography, or anion exchange chromatography. The plasmid DNA obtained using these procedures may then be manipulated using standard cloning techniques familiar to those skilled in the art. Alternatively, a PCR can be performed with primers designed at both ends of the inserted EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids. The PCR product which corresponds to the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of nucleic acids can then be manipulated using standard cloning techniques familiar to those skilled in the art.

One embodiment of the present invention is a purified nucleic acid comprising a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a purified nucleic acid comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive nucleotides, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

A further aspect of this embodiment is a purified vertebrate nucleic acid comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive nucleotides, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

A further aspect of this embodiment is a purified human nucleic acid comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive nucleotides, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a purified nucleic acid comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive nucleotides, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of the preferred polynucleotides described in Tables IVa and IVb and sequences complementary to the sequences the preferred polynucleotides described in Tables IVa and IVb.

Another embodiment of the present invention is a purified nucleic acid comprising at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500,

or 1000 consecutive nucleotides, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of the preferred polynucleotides described in Tables IVa and IVb updated and sequences complementary to the sequences the preferred polynucleotides described in Tables IVa and IVb updated.

Another embodiment of the present invention is a purified nucleic acid comprising at least 15 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

A further aspect of this embodiment is a purified vertebrate nucleic acid comprising at least 15 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

A further aspect of this embodiment is a purified human nucleic acid comprising at least 15 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a purified nucleic acid comprising at least 15 consecutive nucleotides of a sequence selected from the group consisting of the preferred polynucleotides described in Tables IVa and IVb and sequences complementary to the sequences of the preferred polynucleotides described in Tables IVa and IVb.

A further embodiment of the present invention is a purified nucleic acid comprising the coding sequence of a sequence selected from the group consisting of 24-3883.

Yet another embodiment of the present invention is a purified nucleic acid comprising the full coding sequences of a sequence selected from the group consisting of SEQ ID NOs. 1339-2059 wherein the full coding sequence comprises the sequence encoding the signal peptide and the sequence encoding the mature protein.

Still another embodiment of the present invention is a purified nucleic acid comprising a contiguous span of a sequence selected from the group consisting of SEQ ID NOs. 1339-2059 which encodes the mature protein.

Another embodiment of the present invention is a purified nucleic acid comprising a contiguous span of a sequence selected from the group consisting of SEQ ID NOs. 24-383 and 1339-2059 which encodes the signal peptide.

Another embodiment of the present invention is a purified nucleic acid encoding a polypeptide comprising a sequence selected from the group consisting of the sequences of SEQ ID NOs. 3884-7743.

Another embodiment of the present invention is a purified nucleic acid encoding a polypeptide comprising a sequence selected from the group consisting of the sequences of SEQ ID NOs. 5199-5919.

Another embodiment of the present invention is a purified nucleic acid encoding a polypeptide comprising a mature protein included in a sequence selected from the group consisting of the sequences of SEQ ID NOs. 5199-5919.

Another embodiment of the present invention is a purified nucleic acid encoding a polypeptide comprising a signal peptide included in a sequence selected from .the group consisting of the sequences of SEQ ID NOs. 3884-4243 and 5199-5919.

Another embodiment of the present invention is a purified nucleic acid of at least 15,18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500 or 1000 nucleotides in length which hybridizes under stringent conditions to a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a vertebrate purified nucleic acid of at least 15,18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500 or 1000 nucleotides in length which hybridizes under stringent conditions to a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a human purified nucleic acid of at least 15,18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500 or 1000 nucleotides in length which hybridizes under stringent conditions to a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a purified or isolated polypeptide comprising a sequence selected from the group consisting of the sequences of SEQ ID NOs. 3884-7743.

Another embodiment of the present invention is a purified or isolated polypeptide comprising a sequence selected from the group consisting of SEQ ID NOs. 5199-5919.

Another embodiment of the present invention is a purified or isolated polypeptide comprising a mature protein of a polypeptide selected from the group consisting of SEQ ID NOs. 5199-5919.

Another embodiment of the present invention is a purified or isolated polypeptide comprising a signal peptide of a sequence selected from the group consisting of the polypeptides of SEQ ID NOs. 3884-4243 and 5199-5919.

Another embodiment of the present invention is a purified or isolated polypeptide comprising at least 5, 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, 75, 100, 200, 300, 500, or 1000 consecutive amino acids, to the extent that fragments of these lengths are consistent with the specific sequence, of a sequence selected from the group consisting of the sequences of SEQ ID NOs. 3884-7743.

Another embodiment of the present invention is a method of making a cDNA comprising the steps of contacting a collection of mRNA molecules from human cells with a primer comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, hybridizing said primer to an mRNA in said collection that encodes said protein, reverse transcribing said hybridized primer to make a first cDNA strand from said mRNA, making a second cDNA strand complementary to said first cDNA strand and isolating

the resulting cDNA encoding said protein comprising said first cDNA strand and said second cDNA strand.

Another embodiment of the present invention is a purified cDNA obtainable by the method of the preceding paragraph. In one aspect of this embodiment, the cDNA encodes at least a portion of a human polypeptide.

Another embodiment of the present invention is a purified cDNA obtained by a method of making a cDNA of the invention. In one aspect of this embodiment, the cDNA encodes at least a portion of a human polypeptide.

Another embodiment of the present invention is a method of making a cDNA comprising the steps of contacting a cDNA collection with a detectable probe comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 under conditions which permit said probe to hybridize to cDNA, identifying a cDNA which hybridizes to said detectable probe, and isolating said cDNA which hybridizes to said probe.

Another embodiment of the present invention is a purified cDNA obtainable by the method of the preceding paragraph. In one aspect of this embodiment, the cDNA encodes at least a portion of a human polypeptide.

Another embodiment of the present invention is a method of making a cDNA comprising the steps of contacting a collection of mRNA molecules from human cells with a first primer capable of hybridizing to the polyA tail of said mRNA, hybridizing said first primer to said polyA tail, reverse transcribing said mRNA to make a first cDNA strand, making a second cDNA strand complementary to said first cDNA strand using at least one primer comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, and isolating the resulting cDNA comprising said first cDNA strand and said second cDNA strand. In another aspect of this method the second cDNA strand is made by contacting said first cDNA strand with a second primer comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID

NOs. 24-3883 and SEQ ID NOs. 7744-19335 and a third primer which sequence is fully included within the sequence of said first primer, performing a first polymerase chain reaction with said second and third primers to generate a first PCR product, contacting said first PCR product with a fourth primer, comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of said sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, and a fifth primer, which sequence is fully included within the sequence of said third primer, wherein said fourth and fifth hybridize to sequences within said first PCR product, and performing a second polymerase chain reaction, thereby generating a second PCR product. Alternatively, the second cDNA strand may be made by contacting said first cDNA strand with a second primer comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and a third primer which sequence is fully included within the sequence of said first primer, performing a polymerase chain reaction with said second and third primers to generate said second cDNA strand. Alternatively, the second cDNA strand may be made by contacting said first cDNA strand with a second primer comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive nucleotides of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, hybridizing said second primer to said first strand cDNA, and extending said hybridized second primer to generate said second cDNA strand.

Another embodiment of the present invention is a purified cDNA obtainable by a method of making a cDNA of the invention. In one aspect of this embodiment, said cDNA encodes at least a portion of a human polypeptide.

Another embodiment of the present invention is a method of making a polypeptide comprising the steps of obtaining a cDNA which encodes a polypeptide encoded by a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NOs. 24-3883 or a cDNA which encodes a polypeptide comprising at least 6, 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive amino acids of a polypeptide encoded by a sequence selected from the group consisting of SEQ ID NOs. 24-3883, inserting said cDNA in an expression vector such that said cDNA is operably linked to a

promoter, introducing said expression vector into a host cell whereby said host cell produces the protein encoded by said cDNA, and isolating said protein.

Another embodiment of the present invention is a method of obtaining a promoter DNA comprising the steps of obtaining genomic DNA located upstream of a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, screening said genomic DNA to identify a promoter capable of directing transcription initiation, and isolating said DNA comprising said identified promoter.

In one aspect of this embodiment, said obtaining step comprises walking from genomic DNA comprising a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335. In another aspect of this embodiment, said screening step comprises inserting genomic DNA located upstream of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 into a promoter reporter vector. For example, said screening step may comprise identifying motifs in genomic DNA located upstream of a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 which are transcription factor binding sites or transcription start sites.

Another embodiment of the present invention is a isolated promoter obtainable by the methods of the above paragraphs.

Another embodiment of the present invention is a isolated promoter obtained by the methods described in the above paragraphs.

Another embodiment of the present invention is the inclusion of at least one sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, the sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and fragments comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, or 100 consecutive nucleotides of said sequence in an array of discrete ESTs or fragments thereof of at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, or

100 nucleotides in length. In some aspects of this embodiment, the array includes at least two sequences selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, the sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, and fragments comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, or 100 consecutive nucleotides of said sequences. In another aspect of this embodiment, the array includes at least one, three, five, ten, fifteen, or twenty sequences selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335, the sequences complementary to the sequences of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and fragments comprising at least 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, 50, or 100 consecutive nucleotides of said sequences.

Another embodiment of the present invention is an enriched population of recombinant nucleic acids, said recombinant nucleic acids comprising an insert nucleic acid and a backbone nucleic acid, wherein at least 0.01%, 0.05%, 0.1%, 0.5%, 1%, 2%, 5%, 10%, or 20% of said insert nucleic acids in said population comprise a sequence selected from the group consisting of SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335 and the sequences complementary to SEQ ID NOs. 24-3883 and SEQ ID NOs. 7744-19335.

Another embodiment of the present invention is a purified or isolated antibody capable of specifically binding to a polypeptide comprising a sequence selected from the group consisting of SEQ ID NOs. 3884-7743.

Another embodiment of the present invention is a purified or isolated antibody capable of specifically binding to a polypeptide comprising at least 6, 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 consecutive amino acids of a sequence selected from the group consisting of SEQ ID NOs. 3884-7743.

Yet, another embodiment of the present invention is an antibody composition capable of selectively binding to an epitope-containing fragment of a polypeptide comprising a contiguous span of at least 8, 10, 12, 15, 18, 20, 23, 25, 28, 30, 35, 40, or 50 amino acids of any of SEQ ID NOs. 3884-7743, wherein said antibody is polyclonal or monoclonal.

Another embodiment of the present invention is a computer readable medium having stored thereon a sequence selected from the group consisting of a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 and a polypeptide code of SEQ ID NOs. 3884-7743.

Another embodiment of the present invention is a computer system comprising a processor and a data storage device wherein said data storage device has stored thereon a sequence selected from the group consisting of a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 and a polypeptide code of SEQ ID NOs. 3884-7743. In one aspect of this embodiment the computer system further comprises a sequence comparer and a data storage device having reference sequences stored thereon. For example, the sequence comparer may comprise a computer program which indicates polymorphisms. In another aspect of this embodiment, the computer system further comprises an identifier which identifies features in said sequence.

Another embodiment of the present invention is a method for comparing a first sequence to a reference sequence wherein said first sequence is selected from the group consisting of a nucleic acid code of SEQID NOs. 24-3883 and 7744-19335 and a polypeptide code of SEQ ID NOs. 3884-7743 comprising the steps of reading said first sequence and said reference sequence through use of a computer program which compares sequences and determining differences between said first sequence and said reference sequence with said computer program. In some aspects of this embodiment, said step of determining differences between the first sequence and the reference sequence comprises identifying polymorphisms.

Another embodiment of the present invention is a method for identifying a feature in a sequence selected from the group consisting of a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 and a polypeptide code of SEQ ID NOs. 3884-7743 comprising the steps of reading said sequence through the use of a computer program which identifies features in sequences and identifying features in said sequence with said computer program.

Another embodiment of the present invention is a vector comprising a nucleic acid according to any one of the nucleic acids described above.

Another embodiment of the present invention is a host cell containing the above vector.

Another embodiment of the present invention is a method of making any of the nucleic acids described above comprising the steps of introducing said nucleic acid into a host cell such that said nucleic acid is present in multiple copies in each host cell and isolating said nucleic acid from said host cell.

Another embodiment of the present invention is a method of making a nucleic acid of any of the nucleic acids described above comprising the step of sequentially linking together the nucleotides in said nucleic acids.

Another embodiment of the present invention is a method of making any of the polypeptides described above wherein said polypeptides is 150 amino acids in length or less comprising the step of sequentially linking together the amino acids in said polypeptide.

Another embodiment of the present invention is a method of making any of the polypeptides described above wherein said polypeptides is 120 amino acids in length or less comprising the step of sequentially linking together the amino acids in said polypeptides.

Brief Description of the Sequence Listing

SEQ ID NOs. 1, 3, 5, 7, 9, 11, and 13 are full-length cDNAs prepared using the methods described herein.

SEQ ID NOs. 2, 4 and 6 are the signal peptides encoded by the nucleic acids of SEQ ID NOs. 1, 3 and 5 respectively.

SEQ ID NOs. 8, 10, 12, and 14 are the polypeptides encoded by the nucleic acids of SEQ ID NOs. 7, 9, 11, and 13 respectively.

SEQ ID NOs. 15, 16, 18, 19, 21 and 22 are primers whose use is described in the specification.

SEQ ID NOs. 17, 20, and 23 are the sequences of nucleic acids containing transcription factor binding sites which were obtained as described below.

SEQ ID NOs. 24-383 are nucleic acids having an incomplete ORF which encodes a signal peptide. As used herein, an "incomplete ORF" is an open reading frame in which

a start codon has been identified but no stop codon has been identified. The locations of the incomplete ORFs and sequences encoding signal peptides are listed in the accompanying Sequence Listing. In addition, the von Heijne score of the signal peptide computed as described below is listed as the "score" in the accompanying Sequence Listing. The sequence of the signal-peptide is listed as "seq" in the accompanying Sequence Listing. The "/" in the signal peptide sequence indicates the location where proteolytic cleavage of the signal peptide occurs to generate a mature protein.

SEQ ID NOs. 384-1338 are nucleic acids having an incomplete ORF in which no sequence encoding a signal peptide has been identified to date. However, it remains possible that subsequent analysis will identify a sequence encoding a signal peptide in these nucleic acids. The locations of the incomplete ORFs are listed in the accompanying Sequence Listing.

SEQ ID NOs. 1339-2059 are nucleic acids having a complete ORF which encodes a signal peptide. As used herein, a "complete ORF" is an open reading frame in which a start codon and a stop codon have been identified. The locations of the complete ORFs and sequences encoding signal peptides are listed in the accompanying Sequence Listing. In addition, the von Heijne score of the signal peptide computed as described below is listed as the "score" in the accompanying Sequence Listing. The sequence of the signal-peptide is listed as "seq" in the accompanying Sequence Listing. The "/" in the signal peptide sequence indicates the location where proteolytic cleavage of the signal peptide occurs to generate a mature protein.

SEQ ID NOs. 2060-3883 are nucleic acids having a complete ORF in which no sequence encoding a signal peptide has been identified to date. However, it remains possible that subsequent analysis will identify a sequence encoding a signal peptide in these nucleic acids. The locations of the complete ORFs are listed in the accompanying Sequence Listing.

SEQ ID NOs. 3884-4243 are "incomplete polypeptide sequences" which include a signal peptide. Incomplete polypeptide sequences" are polypeptide sequences encoded by nucleic acids in which a start codon has been identified but no stop codon has been identified. These polypeptides are encoded by the nucleic acids of SEQ ID NOs. 24-383. The location of the signal peptide is listed in the accompanying Sequence Listing.

SEQ ID NOs. 4244-5198 are incomplete polypeptide sequences in which no signal peptide has been identified to date. However, it remains possible that subsequent analysis will identify a signal peptide in these polypeptides. These polypeptides are encoded by the nucleic acids of SEQ ID NOs. 384-1338.

SEQ ID NOs. 5199-5919 are "complete polypeptide sequences" which include a signal peptide. "Complete polypeptide sequences" are polypeptide sequences encoded by nucleic acids in which a start codon and a stop codon have been identified. These polypeptides are encoded by the nucleic acids of SEQ ID NOs. 1339-2059. The location of the signal peptide is listed in the accompanying Sequence Listing.

SEQ ID NOs. 5920-7743 are complete polypeptide sequences in which no signal peptide has been identified to date. However, it remains possible that subsequent analysis will identify a signal peptide in these polypeptides. These polypeptides are encoded by the nucleic acids of SEQ ID NOs.2060-3883.

SEQ ID NOs. 7744-19335 are nucleic acid sequences in which no open reading frame of at least 150 nucleotides has been conclusively identified to date. However, it remains possible subsequent analysis will identify an open reading frame in these nucleic acids.

In the accompanying Sequence Listing, all instances of the symbol "n" in the nucleic acid sequences mean that the nucleotide can be adenine, guanine, cytosine or thymine. In some instances the polypeptide sequences in the Sequence Listing contain the symbol "Xaa." These "Xaa" symbols indicate either (1) a residue which cannot be identified because of nucleotide sequence ambiguity or (2) a stop codon in the determined sequence where applicants believe one should not exist (if the sequence were determined more accurately). In some instances, several possible identities of the unknown amino acids may be suggested by the genetic code.

In the case of secreted proteins, it should be noted that, in accordance with the regulations governing Sequence Listings, in the appended Sequence Listing, the encoded protein (i.e. the protein containing the signal peptide and the mature protein or part thereof) extends from an amino acid residue having a negative number through a positively numbered amino acid residue. Thus, the first amino acid of the mature protein resulting from cleavage of the signal peptide is designated as amino acid number

1, and the first amino acid of the signal peptide is designated with the appropriate negative number.

Brief Description of the Drawings

Figure 1 summarizes the computer analysis procedure for obtaining consensus contigated ESTs.

Figure 2 is an analysis of the 43 amino terminal amino acids of all human SwissProt proteins to determine the frequency of false positives and false negatives using the techniques for signal peptide identification described herein.

Figure 3 summarizes a general RT-PCR-based-method used to clone and sequence extended cDNAs containing sequences adjacent to 5'ESTs.

Figure 4 provides a schematic description of the promoters isolated and the way they are assembled with the corresponding 5'ESTs.

Figure 5 describes the transcription factor binding sites present in each of the promoters of Figure 4.

Figure 6 is a block diagram of an exemplary computer system.

Figure 7 is a flow diagram illustrating one embodiment of a process 200 for comparing a new nucleotide or protein sequence with a database of sequences in order to determine the homology levels between the new sequence and the sequences in the database.

Figure 8 is a flow diagram illustrating one embodiment of a process 250 in a computer for determining whether two sequences are homologous.

Figure 9 is a flow diagram illustrating one embodiment of an identifier process 300 for detecting the presence of a feature in a sequence.

Figure 10 is a table describing algorithms, parameters and criteria that can be used for each step of extended cDNA analysis.

Detailed Description of the Preferred Embodiment

I. General Methods for Obtaining 5' ESTs derived from mRNAs with intact 5' ends

The 5'ESTs of the present invention were obtained from cDNA libraries derived from mRNAs having intact 5' ends as described in Examples 1 to 5 using either a chemical or enzymatic approach.

EXAMPLE 1

Preparation of mRNA

Total human RNAs or polyA+ RNAs derived from different tissues were respectively purchased from LABIMO and CLONTECH and used to generate cDNA libraries as described below. The purchased RNA had been isolated from cells or tissues using acid guanidium thiocyanate-phenol-chloroform extraction (Chomczyniski and Sacchi, *Analytical Biochemistry* 162:156-159, 1987). PolyA+ RNA was isolated from total RNA (LABIMO) by two passes of oligo dT chromatography, as described by Aviv and Leder, *Proc. Natl. Acad. Sci. USA* 69:1408-1412, 1972) in order to eliminate ribosomal RNA.

The quality and the integrity of the polyA+ RNAs were checked. Northern blots hybridized with a probe corresponding to an ubiquitous mRNA, such as elongation factor 1 or elongation factor 2, were used to confirm that the mRNAs were not degraded. Contamination of the polyA$^+$ mRNAs by ribosomal sequences was checked using Northern blots and a probe derived from the sequence of the 28S rRNA. Preparations of mRNAs with less than 5% of rRNAs were used in library construction. To avoid constructing libraries with RNAs contaminated by exogenous sequences (prokaryotic or fungal), the presence of bacterial 16S ribosomal sequences and of two highly expressed fungal mRNAs was examined using PCR.

EXAMPLE 2

Methods for Obtaining mRNAs having Intact 5' Ends

Following preparation of the mRNAs from various tissues as described above, selection of mRNA with intact 5' ends and specific attachment of an oligonucleotide tag to the 5' end of said mRNA is performed using either a chemical or enzymatic approach. Both techniques take advantage of the presence of the "cap" structure, which characterizes the 5'end of intact mRNAs and which comprises a guanosine generally methylated once, at the 7 position.

The chemical modification approach involves the optional elimination of the 2', 3'-cis diol of the 3' terminal ribose, the oxidation of the 2', 3', -cis diol of the ribose linked to the cap of the 5' ends of the mRNAs into a dialdehyde, and the coupling of the said obtained dialdehyde to a derivatized oligonucleotide tag. Further detail regarding the chemical approaches for obtaining mRNAs having intact 5' ends are disclosed in International Application No. WO96/34981, published November 7, 1996, the disclosure of which is incorporated herein by reference in its entirety.

The enzymatic approach for ligating the oligonucleotide tag to the 5' ends of mRNAs with intact 5' ends involves the removal of the phosphate groups present on the 5' ends of uncapped incomplete mRNAs, the subsequent decapping of mRNAs with intact 5' ends and the ligation of the phosphate present at the 5' end of the decapped mRNA to an oligonucleotide tag. Further detail regarding the enzymatic approaches for obtaining mRNAs having intact 5' ends are disclosed in Dumas Milne Edwards J.B. (Doctoral Thesis of Paris VI University, Le clonage des ADNc complets: difficultes et perspectives nouvelles. Apports pour l'etude de la regulation de l'expression de la tryptophane hydroxylase de rat, 20 Dec. 1993), EP0 625572 and Kato *et al., Gene* **150**:243-250 (1994), the disclosures of which are incorporated herein by reference in their entireties.

In either the chemical or the enzymatic approach, the oligonucleotide tag has a restriction enzyme site (e.g. Eco RI sites) therein to facilitate later cloning procedures. Following attachment of the oligonucleotide tag to the mRNA, the integrity of the mRNA was then examined by performing a Northern blot using a probe complementary to the oligonucleotide tag.

EXAMPLE 3

cDNA Synthesis Using mRNA Templates Having Intact 5' Ends

For the mRNAs joined to oligonucleotide tags using either the chemical or the enzymatic method, first strand cDNA synthesis was performed using a thermostable reverse transcriptase with an oligo-dT primer. In some instances, this oligo-dT primer contained an internal tag of at least 4 nucleotides which is different from one tissue to the other. In order to protect internal EcoRI sites in the cDNA from digestion at later steps in the procedure, methylated dCTP was used for first strand synthesis. After removal of

RNA by an alkaline hydrolysis, the first strand of cDNA was precipitated using isopropanol in order to eliminate residual primers.

The second strand of the cDNA was then synthesized with a Klenow fragment using a primer corresponding to the 5'end of the ligated oligonucleotide. Preferably, the primer is 20-25 bases in length. Methylated dCTP was also used for second strand synthesis in order to protect internal EcoRI sites in the cDNA from digestion during the cloning process.

EXAMPLE 4

Cloning of cDNAs derived from mRNA with intact 5' ends

Following second strand synthesis, the cDNAs were cloned into the phagemid pBlueScript II SK$^-$ vector (Stratagene) or one of its derivative. The ends of the cDNAs were blunted with T4 DNA polymerase (Biolabs) and the cDNA was digested with EcoRI. Since methylated dCTP was used during cDNA synthesis, the EcoRI site present in the tag was the only hemi-methylated site, hence the only site susceptible to EcoRI digestion. In some instances, to facilitate subcloning, an Hind III adaptor was added to the 3' end of cDNAs.

The cDNAs were then size fractionated using either exclusion chromatography (AcA, Biosepra) or electrophoretic separation which yields 3 or 6 different fractions. The cDNAs were then directionally cloned either into pBlueScript using either the EcoRI and SmaI restriction sites or the EcoRI and Hind III restriction sites when the Hind III adaptator was present in the cDNAs. The ligation mixture was electroporated into bacteria and propagated under appropriate antibiotic selection.

EXAMPLE 5

Selection of Clones Having the Oligonucleotide Tag Attached Thereto

Clones containing the oligonucleotide tag attached to cDNAs were then selected as follows.

The plasmid DNAs containing cDNA libraries made as described above were purified (Qiagen). A positive selection of the tagged clones was performed as follows. Briefly, in this selection procedure, the plasmid DNA was converted to single stranded

DNA using gene II endonuclease of the phage F1 in combination with an exonuclease (Chang *et al.*, *Gene* 127:95-8, 1993) such as exonuclease III or T7 gene 6 exonuclease. The resulting single stranded DNA was then purified using paramagnetic beads as described by Fry *et al.*, *Biotechniques*, 13: 124-131, 1992. In this procedure, the single stranded DNA was hybridized with a biotinylated oligonucleotide having a sequence corresponding to the 3' end of the oligonucleotide tag described in Example 2. Preferably, the primer has a length of 20-25 bases. Clones including a sequence complementary to the biotinylated oligonucleotide were captured by incubation with streptavidin coated magnetic beads followed by magnetic selection. After capture of the positive clones, the plasmid DNA was released from the magnetic beads and converted into double stranded DNA using a DNA polymerase such as the ThermoSequenase obtained from Amersham Pharmacia Biotech. Alternatively, protocols such as the Gene Trapper kit (Gibco BRL) may be used. The double stranded DNA was then electroporated into bacteria. The percentage of positive clones having the 5' tag oligonucleotide was estimated to typically rank between 90 and 98% using dot blot analysis.

Following electroporation, the libraries were ordered in 384-microtiter plates (MTP). A copy of the MTP was stored for future needs. Then the libraries were transferred into 96 MTP and sequenced.

EXAMPLE 6

Sequencing of Inserts in Selected Clones

Plasmid inserts were first amplified by PCR on PE-9600/ PE-9700 thermocyclers (PE Biosystems, Applied Biosystems Division, Foster City, CA) or tetrades thermocyclers (MJ Research), using L7AF3 and SETA primers (Genset SA), ExTaq polymerase (Takara), dNTPs (Boehringer), buffer and cycling conditions as recommended by the PE Biosystems Corporation. PCR products were then sequenced using MegaBace Capillary sequencers (Molecular Dynamics). Sequencing reactions were performed using PE 9600 / PE-9700 thermocyclers with ET primer (Energy Transfer) chemistry and ThermoSequenase (Amersham Pharmacia Biotech). The primer used was Reverse Primer (RP) (Amersham Pharmacia Biotech) as appropriate. The dNTPs and ddNTPs used in the sequencing reactions were purchased from Boehringer. Sequencing buffer, reagent

concentrations and cycling conditions were as recommended by Amersham. Following the sequencing reaction, the samples were purified with Sephadex (G50) and injected in the capillaries of the MegaBace. Injection was performed for 12 seconds at 10000 V and electrophoresis for 100 minutes at 10000V. The sequence data were collected and analyzed using the Instrument Control Manager analysis software of the MegaBace prior to the Genset's proprietary sequence verification software.

Alternatively, plasmid inserts were first amplified by PCR on PE-9600 thermocyclers (PE Biosystems, Applied Biosystems Division, Foster City, CA), using standard SETA-A and SETA-B primers (Genset SA), AmpliTaqGold (PE Biosystems), dNTPs (Boehringer), buffer and cycling conditions as recommended by the PE Biosystems Corporation. PCR products were then sequenced using automatic ABI Prism 377 sequencers (PE Biosystems). Sequencing reactions were performed using PE 9600 thermocyclers with standard dye-primer chemistry and ThermoSequenase (Amersham Pharmacia Biotech). The primers used were either T7 or 21M13 (available from Genset SA) as appropriate. The primers were labeled with the JOE, FAM, ROX and TAMRA dyes. The dNTPs and ddNTPs used in the sequencing reactions were purchased from Boehringer. Sequencing buffer, reagent concentrations and cycling conditions were as recommended by Amersham. Following the sequencing reaction, the samples were precipitated with ethanol, resuspended in formamide loading buffer, and loaded on a standard 4% acrylamide gel. Electrophoresis was performed for 2.5 hours at 3000V on an ABI 377 sequencer, and the sequence data were collected and analyzed using the ABI Prism DNA Sequencing Analysis Software, version 2.1.2.

II. Computer Analysis of the Isolated 5' ESTs

The sequence data from the different cDNA libraries made as described above were transferred to a database, where quality control and validation steps were performed. A base-caller, working using a Unix system, automatically flagged suspect peaks, taking into account the shape of the peaks, the inter-peak resolution, and the noise level. The proprietary base-caller also performed an automatic trimming. Any stretch of 25 or fewer bases having more than 4 suspect peaks was considered unreliable and was discarded. Sequences corresponding to cloning vector or ligation oligonucleotides were automatically

removed from the 5'EST sequences. However, the resulting 5'EST sequences may contain 1 to 5 bases belonging to the above mentioned sequences at their 5' end. If needed, these can easily be removed on a case to case basis.

Following sequencing as described above, the sequences of the 5' ESTs were entered in a database for storage and manipulation as described below and as depicted in Figure 1. Before searching the 5'ESTs in the database for sequences of interest, 5'ESTs derived from mRNAs which were not of interest were identified. Briefly, such undesired sequences may be of three types. First, contaminants of either endogenous (ribosomal RNAs, transfert RNAs, mitochondrial RNAs) or exogenous (prokaryotic RNAs and fungal RNAs) origins were identified. Second, uninformative sequences, namely redundant sequences, small sequences and highly degenerate sequences were identified. Third, repeated sequences (Alu, L1, THE and MER repeats, SSTR sequences or satellite, micro-satellite, or telomeric repeats) were identified and masked in further processing.

Then, in order to determine the accuracy of the sequencing procedure as well as the efficiency of the 5' selection described above, the analyses described in Examples 7 and 8 respectively were performed on 5'ESTs.

EXAMPLE 7

Measurement of Sequencing Accuracy by Comparison to Known Sequences

To further determine the accuracy of the sequencing procedure described in Example 6, the sequences of 5' ESTs derived from known sequences were identified and compared to the original known sequences. First, a FASTA analysis with overhangs shorter than 5 bp on both ends was conducted on the 5' ESTs to identify those matching an entry in the public human mRNA database available at the time of filing the present documents. The 5' ESTs which matched a known human mRNA were then realigned with their cognate mRNA and dynamic programming was used to include substitutions, insertions, and deletions in the list of "errors" which would be recognized. Errors occurring in the last 10 bases of the 5' EST sequences were ignored to avoid the inclusion of spurious cloning sites in the analysis of sequencing accuracy. This analysis revealed that the sequences incorporated in the database had an accuracy of more than 99.3% using Megabaces Capillary sequencers and more than 99.5% using ABI 377 sequencers.

EXAMPLE 8

Determination of Efficiency of 5' EST Selection

To determine the efficiency at which the above selection procedures isolated cDNAs which include the 5' ends of their corresponding mRNAs, the sequences of 5'ESTs were aligned with a reference pool of complete mRNA/cDNA extracted from the EMBL release 57 using the FASTA algorithm. The reference mRNA/cDNA starting at the most 5' transcription start site was obtained, and then compared to the 5' transcription start site position of the 5'EST. More than 75% of 5'ESTs had their 5' ends close to the 5' ends of the known sequence. As some of the mRNA sequences available in the EMBL database are deduced from genomic sequences, a 5' end matching with these sequences will be counted as an internal match. Thus, the method used here underestimates the yield of 5'ESTs including the authentic 5' ends of their corresponding mRNAs.

EXAMPLE 9

Generation of Consensus Contigated 5' ESTs

Since the cDNA libraries made above include multiple 5' ESTs derived from the same mRNA, overlapping 5'ESTs may be assembled into continuous sequences. The following method describes how to efficiently align multiple 5'ESTs in order to yield not only consensus contigated 5'EST sequences for mRNAs derived from different genes but also consensus contigated 5'EST sequences for different mRNAs, so called variants, transcribed from the same gene such as alternatively spliced mRNAs.

A subset of 5'ESTs free from endogenous contaminants and uninformative sequences, and following the masking of repeats, was first selected.

This whole set of sequences was first partitioned into small clusters containing sequences which exhibited perfect matches with each other on a given length and which derived from a small number of different genes. Some 5'EST sequences, so called singletons, were not aligned using this approach because they were not homologous to any other sequence.

Thereafter, all variants of a given gene were identified in each cluster using a proprietary software. 5'EST sequences belonging to the same variant were then

contigated and consensus contigated 5'EST sequences generated for each variant. All consensus contigated 5' EST sequences were subsequently compared to the whole set of individual 5'EST sequences used to obtained them.

If desired, the consensus contigated 5'EST sequences may be verified by identifying clones in nucleic acid samples derived from biological tissues, such as cDNA libraries, which hybridize to the probes based on the sequences of the consensus contigated 5'ESTs using any methods described herein and sequencing those clones.

To assess the yield of new sequences, the 5'ESTs obtained and consensus contigated 5'ESTs were compared to all known complete human mRNAs extracted from the EMBL release 58 using BLASTN with the following parameters S=1000, S2=1000, V=5 and B=5. All sequences with high scoring pairs whose significance was above e-100 were kept. Then, the obtained 5'ESTs and consensus contigated 5'ESTs were compared to all the human proteins extracted from SwissProt release 37, TrEMBL release 58 and Genseqp (Derwent's database of patented amino acid sequences) release 35.3 on both strands using blastx with the following parameters: S=450, S2=450, V=5 and B=5. All sequences with high scoring pairs whose significance was above e-50 were kept. Using this process, about 86% of 5'ESTs or consensus assembled 5'ESTs were considered unidentified.

EXAMPLE 10

Identification of the Most Probable Open Reading Frame of 5' ESTs

Subsequently, consensus contigated 5'ESTs and 5'ESTs were screened to identify those having an open reading frame (ORF).

The nucleic acid sequence was first divided into several subsequences which coding propensity was evaluated separately using one or several different methods known to those skilled in the art such as the evaluation of N-mer frequency and its variants (Fickett and Tung, *Nucleic Acids Res*;**20**:6441-50 (1992)) or the Average Mutual Information method (Grosse *et al*, International Conference on Intelligent Systems for Molecular Biology, Montreal, Canada. June 28-July 1, 1998). Each of the scores obtained by the techniques described above were then normalized by their distribution extremities and then fused using a neural network into a unique score that

represents the coding probability of a given subsequence. The coding probability scores obtained for each subsequence, thus the probability score profiles obtained for each reading frame, was then linked to the initiation codons present on the sequence. For each open reading frame, defined as a nucleic acid sequence beginning with an ATG codon, an ORF score was determined. Preferably, this score is the sum of the probability scores computed for each subsequence corresponding to the considered ORF in the correct reading frame corrected by a function that negatively accounts for locally high score values and positively accounts for sustained high score values. The most probable ORF with the highest score was selected.

Alternatively, open reading frames were simply defined as uninterrupted nucleic acid sequences longer than 150 nucleotides and beginning with an ATG codon.

In some embodiments, nucleic acid sequences encoding an "incomplete ORF", as described herein, namely an open reading frame in which a start codon has been identified but no stop codon has been identified, were obtained.

In other embodiments, nucleic acid sequences encoding a "complete ORF", as used herein, namely an open reading frame in which a start codon and a stop codon have been identified, are obtained.

In a preferred embodiment, open reading frames encoding polypeptides of at least 50 amino acids were obtained.

To confirm that the chosen ORF actually encodes a polypeptide, the consensus contigated 5'EST or 5'EST may be used to obtain an extended cDNA using any of the techniques described herein, and especially those described in Examples 17 and 18. Then, such obtained extended cDNAs may be screened for the most probable open reading frame using any of the techniques described herein. The amino acid sequence of the ORF encoded by the consensus contigated 5'EST or 5'EST may then be compared to the amino acid sequence of the ORF encoded by the extended cDNA using any of the algorithms and parameters described herein in order to determine whether the ORF encoded by the extended cDNA is basically the same as the one encoded by the consensus contigated 5'EST or 5'EST.

Alternatively, to confirm that the chosen ORF actually encodes a polypeptide, the consensus contigated 5'EST or 5'EST may be used to obtain an extended cDNA using any

of the techniques described herein, and especially those described in Examples 17 and 18. Such an extended cDNA may then be inserted into an appropriate expression vector and used to express the polypeptide encoded by the extended cDNA as described herein. The expressed polypeptide may be isolated, purified, or enriched as described herein. Several methods known to those skilled in the art may then be used, including in combination, to determine whether the expressed polypeptide is the one actually encoded by the chosen ORF, herein referred to as the expected polypeptide. Such methods are based on the determination of predictable features of the expressed polypeptide, including but not limited to its amino acid sequence, its size or its charge, and the comparison of these features to those predicted for the expected polypeptide. The following paragraphs present examples of such methods.

One of these methods involves the determination of at least a portion of the amino acid sequence of the expressed polypeptide using any technique known to those skilled in the art. For example, the amino-terminal residues may be determined using automated techniques based on Edman's degradation of polypeptides in which N-terminal residues are sequentially labeled and cleaved from the polypeptide of interest (see Stryer, Exploring proteins in *Biochemistry*, Freeman and Company, New York, (1995)). The amino acid sequence of the expressed polypeptide may then be compared to the one predicted for the expected polypeptide using any algorithm and parameters described therein.

Alternatively, the size of the expressed polypeptides may be determined using techniques familiar to those skilled in the art such as Coomassie blue or silver staining and subsequently compared to the size predicted for the expected polypeptide. Generally, the band corresponding to the expressed polypeptide will have a mobility near that expected based on the number of amino acids in the open reading frame of the extended cDNA. However, the band may have a mobility different than that expected as a result of modifications such as glycosylation, ubiquitination, or enzymatic cleavage.

Alternatively, specific antibodies or antipeptides may be generated against the expected polypeptide as described in Example 33 and used to perform immunoblotting or immunoprecipitation studies against the expressed polypeptide. The presence of a band in samples from cells containing the expression vector with the extended cDNA which is absent in samples from cells containing the expression vector encoding an irrelevant

polypeptide indicates that the expected polypeptide or portion thereof is being expressed. Generally, the band corresponding to the expressed polypeptide will have a mobility near that expected based on the number of amino acids in the open reading frame of the extended cDNA. However, the band may have a mobility different than that expected as a result of modifications such as glycosylation, ubiquitination, or enzymatic cleavage.

EXAMPLE 11

Identification of Potential Signal Sequences in 5' ESTs

The 5'ESTs or consensus contigated 5'ESTs found to include an ORF were then searched to identify potential signal motifs using slight modifications of the procedures disclosed in Von Heijne, *Nucleic Acids Res. 14*:4683-4690, 1986. Those sequences encoding a peptide with a score of at least 3.5 in the Von Heijne signal peptide identification matrix were considered to possess a signal sequence.

EXAMPLE 12

Confirmation of Accuracy of Identification of Potential Signal Sequences in 5' ESTs

The accuracy of the above procedure for identifying signal sequences encoding signal peptides was evaluated by applying the method to the 43 amino acids located at the N terminus of all human SwissProt proteins. The computed Von Heijne score for each protein was compared with the known characterization of the protein as being a secreted protein or a non- secreted protein. In this manner, the number of non-secreted proteins having a score higher than 3.5 (false positives) and the number of secreted proteins having a score lower than 3.5 (false negatives) could be calculated.

Using the results of the above analysis, the probability that a peptide encoded by the 5' region of the mRNA is in fact a genuine signal peptide based on its Von Heijne's score was calculated based on either the assumption that 10% of human proteins are secreted or the assumption that 20% of human proteins are secreted. The results of this analysis are shown in Figure 2.

Using the above method of identification of secretory proteins, 5' ESTs of the following polypeptides known to be secreted were obtained: human glucagon, gamma interferon induced monokine precursor, secreted cyclophilin-like protein, human

pleiotropin, and human biotinidase precursor. Thus, the above method successfully identified those 5' ESTs which encode a signal peptide.

To confirm that the signal peptide encoded by the 5' ESTs or consensus contigated 5' ESTs actually functions as a signal peptide, the signal sequences from the 5' ESTs or consensus contigated 5' ESTs may be cloned into a vector designed for the identification of signal peptides. Such vectors are designed to confer the ability to grow in selective medium only to host cells containing a vector with an operably linked signal sequence. For example, to confirm that a 5' EST or consensus contigated 5' EST encodes a genuine signal peptide, the signal sequence of the 5' EST or consensus contigated 5' EST may be inserted upstream and in frame with a non-secreted form of the yeast invertase gene in signal peptide selection vectors such as those described in U.S. Patent No. 5,536,637. Growth of host cells containing signal sequence selection vectors with the correctly inserted 5' EST or consensus contigated 5' EST signal sequence confirms that the 5' EST or consensus contigated 5' ESTs encodes a genuine signal peptide.

Alternatively, the presence of a signal peptide may be confirmed by cloning the extended cDNAs obtained using the ESTs or consensus contigated 5' ESTs into expression vectors such as pXT1 as described below, or by constructing promoter-signal sequence-reporter gene vectors which encode fusion proteins between the signal peptide and an assayable reporter protein. After introduction of these vectors into a suitable host cell, such as COS cells or NIH 3T3 cells, the growth medium may be harvested and analyzed for the presence of the secreted protein. The medium from these cells is compared to the medium from control cells containing vectors lacking the signal sequence or extended cDNA insert to identify vectors which encode a functional signal peptide or an authentic secreted protein.

EXAMPLE 13

Analysis of the Sequences of the Invention

The set of the nucleic acid sequences of the invention (SEQ ID NOs. 24-3883 and 7744-19335) was obtained as described in Example 9. Subsequently, the most probable open reading frame was determined and signal sequences were searched, as described in Examples 10 and 11, for all sequences of the invention.

The nucleotide sequences of the SEQ ID NOs. 24-3883 and 7744-19335 and the preferred polypeptides sequences encoded by SEQ ID NOs. 24-3883 (*i.e.* polypeptide sequences of SEQ ID NOs. 3884-7743) are provided in the appended sequence listing. In addition, for each of the nucleic acid sequences of the invention as referred to by its sequence identification number in the first column, Table I provides the positions of the first and last codons for each of the corresponding open reading frames in the second column.

For each of the consensus contigated 5'ESTs of the invention as referred to by its sequence identification number in the first column of Table II, the second column gives a list of the positions of the biological 5'ESTs which were used to obtain this consensus contigated 5'EST. For example, if the first column indicates 250 and the second column indicates 1-120; 6-230; 200-350, this means that the consensus contigated 5'ESTs of SEQ ID NO:250 was computed from 3 different 5'ESTs, the first one matching from positions 1 to 120 of the consensus contigated 5'EST, the second one from positions 6 to 230 of the consensus contigated 5'EST, and the third one from positions 200 to 350 of the consensus contigated 5'EST.

If one of the nucleic acid sequences of SEQ ID NOs. 24-3883 and 7744-19335 is suspected of containing one or more incorrect or ambiguous nucleotides, the ambiguities can readily be resolved by resequencing a fragment containing the nucleotides to be evaluated. If one or more incorrect or ambiguous nucleotides are detected, the corrected sequences should be included in the clusters from which the sequences were isolated, and used to compute other consensus contigated sequences on which other ORFs would be identified. Nucleic acid fragments for resolving sequencing errors or ambiguities may be obtained from deposited clones or can be isolated using the techniques described herein. Resolution of any such ambiguities or errors may be facilitated by using primers which hybridize to sequences located close to the ambiguous or erroneous sequences. For example, the primers may hybridize to sequences within 50-75 bases of the ambiguity or error. Upon resolution of an error or ambiguity, the corresponding corrections can be made in the protein sequences encoded by the DNA containing the error or ambiguity. The amino acid sequence of the protein

encoded by a particular clone can also be determined by expression of the clone in a suitable host cell, collecting the protein, and determining its sequence.

In addition, if one of the sequences of SEQ ID NOs. 3884-7743 is suspected of containing a truncated ORF as the result of a frameshift in the sequence, such frameshifting errors may be corrected by combining the following two approaches. The first one involves thorough examination of all double predictions, *i.e.* all cases where the probability scores as defined in Example 10 for two ORFs located on different reading frames are high and close, preferably different by less than 0.4. The fine examination of the region where the two possible ORFs overlap may help to detect the frameshift. In the second approach, homologies with known proteins are used to correct suspected frameshifts.

Of the identified clusters, some were shown to be multivariant, *i.e.* to contain several variants of the same gene. Table III gives for each of the multivariant clusters named by its internal reference (first column), the list of all variant consensus contigated 5'ESTs (second column), each being represented by a different sequence identification number.

EXAMPLE 14

Categorization of 5' ESTs and Consensus Contigated 5'ESTs

The nucleic acid sequences of the present invention (SEQ ID NOs. 24-3883 and 7744-19335) were grouped based on their homology to known sequences as follows. All sequences were compared to the nucleic acid sequences of all vertebrates present in the EMBL release 58 and Genseqn (Derwent 's database of patented nucleic acids) releases 35.3 or release 36. It should be noted that, because of the large number of sequences of the invention, the comparison of the polynucleotides of the invention to public sequences was done in a time frame of 15 days, meaning that the first sequences were compared to Geneseqn release 35.3 and the last ones with Geneseqn release 36. The comparison to EMBL vertebrate sequences was performed after masking of repeated sequences and using blastn with the parameters S=108 and X=16 followed by fasta. The comparison to Geneseqn was performed after masking of repeated sequences and using blastn with the parameters S=108 and X=16.

All matches with a minimum of 30 nucleotides with 95% identity or 100% identity were retrieved and used to compute Tables IVa and IVb respectively. Tables IVa and IVb give for each sequence of the invention referred to by its sequence identification number in the first column, the positions of their preferred fragments in the second column entitled "Positions of preferred fragments." These preferred fragments are novel fragments which do not match any publicly available vertebrate sequence according to the algorithm, parameters and criteria defined above. As used herein the term "polynucleotides described in Tables IVa and IVb" refers to all of the preferred polynucleotide fragments defined in Tables IVa and IVb in this manner.

The term "polynucleotides described in Tables IVa and IVb updated" refers to all of the preferred polynucleotide fragments defined in manner described above except that the most recent updates of the EMBL and Derwent databases are used to define the preferred fragments as of the filing date of the instant application.

The present invention encompasses isolated, purified, or recombinant nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb. In particular, the present invention encompasses isolated, purified, or recombinant vertebrate nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb. In particular, the present invention encompasses isolated, purified, or recombinant human nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous

span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb.

The present invention also encompasses isolated, purified, or recombinant nucleic acids which comprise, consist of, or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb. In particular, the present invention encompasses isolated, purified, or recombinant vertebrate nucleic acids which comprise, consist of, or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb. In particular, the present invention encompasses isolated, purified, or recombinant human nucleic acids which comprise, consist of, or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb.

The present invention encompasses isolated, purified, or recombinant nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb updated. In particular, the present invention encompasses isolated, purified, or recombinant vertebrate nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any

combination from the polynucleotides described in Tables IVa and IVb updated. In particular, the present invention encompasses isolated, purified, or recombinant human nucleic acids which consist of, consist essentially of, or comprise a contiguous span of at least 8, 10, 12, 15, 18, 20, 25, 35, 40, 50, 70, 80, 100, 250, or 500 nucleotides in length, to the extent that a contiguous span of these lengths is consistent with the lengths of the particular polynucleotide, of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide described in Tables IVa and IVb is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb updated.

The present invention also encompasses isolated, purified, or recombinant nucleic acids which comprise, consist of, or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb updated. In particular, the present invention encompasses isolated, purified, or recombinant vertebrate nucleic acids which consist of or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb updated. In particular, the present invention encompasses isolated, purified, or recombinant human nucleic acids which consist of or consist essentially of a polynucleotide described in Tables IVa and IVb, or a sequence complementary thereto, wherein said polynucleotide is selected individually or in any combination from the polynucleotides described in Tables IVa and IVb updated.

III. Evaluation of Spatial and Temporal Expression of mRNAs Corresponding to the 5'ESTs or Extended cDNAs

Each of the SEQ ID NOs. 24-3883 and 7744-19335 was also categorized based on the tissue from which its corresponding mRNA was obtained, as described below in Example 15.

EXAMPLE 15

Expression Patterns of mRNAs From Which the 5'ESTs were obtained

Table V shows the spatial distribution of each nucleic acid sequence of the invention (SEQ ID NOs. 24-3883 and 7744-19335) referred to by its internal designation in the first column and the number of individual 5'ESTs used to assemble the consensus contigated 5'ESTs per tissue in the second column. A singleton is thus represented by a single 5'EST from a single tissue. Each type of tissue listed in Table V is encoded by a letter. The correspondence between the letter code and the tissue type is given in Table VI. For example, if the first colummn contains 47 and the second column contains the following list: A:1 C:4 F:3, this means that the consensus contigated 5'EST of SEQ ID NO. 47 was obtained from one 5'EST from brain, four 5'ESTs from fœtal kidney, and three 5'ESTs from liver.

The bias in spatial distribution of the sequences of the invention was examined by comparing the relative proportions of the biological 5'ESTs of a given tissue in each cluster using the following statistical analysis. The under- or over-representation of 5'ESTs of a given cluster in a given tissue was performed using the normal approximation of the binomial distribution. When the observed proportion of 5'ESTs of a given tissue in a given consensus had less than 1% chance to occur randomly according to the chi2 test, the frequency bias was reported as "low" or "high". The results are given in Table V-II as follows. For each consensus contigated 5'ESTs showing a bias in tisue distribution as referred to by its sequence identification number in the first column, the list of tissues where some 5'ESTs were under-represented is given in the second column entitled "low frequency"and the list of tissues where some 5'ESTs are over-represented is given in the third column entitled "high frequency".

In addition to categorizing the 5' ESTs and consensus contigated 5' ESTs with respect to their tissue of origin, the spatial and temporal expression patterns of the mRNAs corresponding to the 5' ESTs and consensus contigated 5' ESTs, as well as their expression levels, may be determined as described in Example 16 below.

Characterization of the spatial and temporal expression patterns and expression levels of these mRNAs is useful for constructing expression vectors capable of producing

a desired level of gene product in a desired spatial or temporal manner, as will be discussed in more detail below.

Furthermore, 5' ESTs and consensus contigated 5' ESTs whose corresponding mRNAs are associated with disease states may also be identified. For example, a particular disease may result from the lack of expression, over expression, or under expression of a mRNA corresponding to a 5' EST or consensus contigated 5' EST. By comparing mRNA expression patterns and quantities in samples taken from healthy individuals with those from individuals suffering from a particular disease, 5' ESTs or consensus contigated 5' ESTs responsible for the disease may be identified.

It will be appreciated that the results of the above characterization procedures for 5' ESTs and consensus contigated 5' ESTs also apply to extended cDNAs (obtainable as described below) which contain sequences adjacent to the 5' ESTs and consensus contigated 5' ESTs. It will also be appreciated that if desired, characterization may be delayed until extended cDNAs have been obtained rather than characterizing the 5' ESTs or consensus contigated 5' ESTs themselves.

EXAMPLE 16

Evaluation of Expression Levels and Patterns of mRNAs Corresponding to EST-Related Nucleic Acids

Expression levels and patterns of mRNAs corresponding to EST-related nucleic acids may be analyzed by solution hybridization with long probes as described in International Patent Application No. WO 97/05277, the entire contents of which are hereby incorporated by reference. Briefly, an EST-related nucleic acid, fragment of an EST related nucleic acid, positional segment of an EST-related nucleic acid, or fragment of a positional segment of an EST-related nucleic acid corresponding to the gene encoding the mRNA to be characterized is inserted at a cloning site immediately downstream of a bacteriophage (T3, T7 or SP6) RNA polymerase promoter to produce antisense RNA. Preferably, the EST-related nucleic acid, fragment of an EST related nucleic acid, positional segment of an EST-related nucleic acid, or fragment of a positional segment of an EST-related nucleic acid is 100 or more nucleotides in length. The plasmid is linearized and transcribed in the presence of ribonucleotides comprising modified

ribonucleotides (i.e. biotin-UTP and DIG-UTP). An excess of this doubly labeled RNA is hybridized in solution with mRNA isolated from cells or tissues of interest. The hybridizations are performed under standard stringent conditions (40-50°C for 16 hours in an 80% formamide, 0.4 M NaCl buffer, pH 7-8). The unhybridized probe is removed by digestion with ribonucleases specific for single-stranded RNA (i.e. RNases CL3, T1, Phy M, U2 or A). The presence of the biotin-UTP modification enables capture of the hybrid on a microtitration plate coated with streptavidin. The presence of the DIG modification enables the hybrid to be detected and quantified by ELISA using an anti-DIG antibody coupled to alkaline phosphatase.

The EST-related nucleic acid, fragment of an EST related nucleic acid, positional segment of an EST-related nucleic acid, or fragment of a positional segment of an EST-related nucleic acid may also be tagged with nucleotide sequences for the serial analysis of gene expression (SAGE) as disclosed in UK Patent Application No. 2 305 241 A, the entire contents of which are incorporated by reference. In this method, cDNAs are prepared from a cell, tissue, organism or other source of nucleic acid for which gene expression patterns must be determined. The resulting cDNAs are separated into two pools. The cDNAs in each pool are cleaved with a first restriction endonuclease, called an anchoring enzyme, having a recognition site which is likely to be present at least once in most cDNAs. The fragments which contain the 5' or 3' most region of the cleaved cDNA are isolated by binding to a capture medium such as streptavidin coated beads. A first oligonucleotide linker having a first sequence for hybridization of an amplification primer and an internal restriction site for a so called tagging endonuclease is ligated to the digested cDNAs in the first pool. Digestion with the second endonuclease produces short tag fragments from the cDNAs.

A second oligonucleotide having a second sequence for hybridization of an amplification primer and an internal restriction site is ligated to the digested cDNAs in the second pool. The cDNA fragments in the second pool are also digested with the tagging endonuclease to generate short tag fragments derived from the cDNAs in the second pool. The tags resulting from digestion of the first and second pools with the anchoring enzyme and the tagging endonuclease are ligated to one another to produce so called ditags. In some embodiments, the ditags are concatamerized to produce ligation products containing

from 2 to 200 ditags. The tag sequences are then determined and compared to the sequences of the EST-related nucleic acid, fragment of an EST related nucleic acid, positional segment of an EST-related nucleic acid, or fragment of a positional segment of an EST-related nucleic acid to determine which 5' ESTs, consensus contigated 5' ESTs, or extended cDNAs are expressed in the cell, tissue, organism, or other source of nucleic acids from which the tags were derived. In this way, the expression pattern of the 5' ESTs, consensus contigated 5' ESTs, or extended cDNAs in the cell, tissue, organism, or other source of nucleic acids is obtained.

Quantitative analysis of gene expression may also be performed using arrays. As used herein, the term array means a one dimensional, two dimensional, or multidimensional arrangement of EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids. Preferably, the EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids are at least 15 nucleotides in length. More preferably, the EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids are at least 100 nucleotide long. More preferably, the fragments are more than 100 nucleotides in length. In some embodiments, the EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids may be more than 500 nucleotides long.

For example, quantitative analysis of gene expression may be performed with EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids in a complementary DNA microarray as described by Schena *et al.* (*Science* **270**:467-470, 1995; *Proc. Natl. Acad. Sci. U.S.A.* **93**:10614-10619, 1996). EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids are amplified by PCR and arrayed from 96-well microtiter plates onto silylated microscope slides using high-speed robotics. Printed arrays are incubated in a humid chamber to

allow rehydration of the array elements and rinsed, once in 0.2% SDS for 1 min, twice in water for 1 min and once for 5 min in sodium borohydride solution. The arrays are submerged in water for 2 min at 95°C, transferred into 0.2% SDS for 1 min, rinsed twice with water, air dried and stored in the dark at 25°C.

Cell or tissue mRNA is isolated or commercially obtained and probes are prepared by a single round of reverse transcription. Probes are hybridized to 1 cm^2 microarrays under a 14 x 14 mm glass coverslip for 6-12 hours at 60°C. Arrays are washed for 5 min at 25°C in low stringency wash buffer (1 x SSC/0.2% SDS), then for 10 min at room temperature in high stringency wash buffer (0.1 x SSC/0.2% SDS). Arrays are scanned in 0.1 x SSC using a fluorescence laser scanning device fitted with a custom filter set. Accurate differential expression measurements are obtained by taking the average of the ratios of two independent hybridizations.

Quantitative analysis of the expression of genes may also be performed with EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids in complementary DNA arrays as described by Pietu *et al.* (*Genome Research* **6**:492-503, 1996). The EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids thereof are PCR amplified and spotted on membranes. Then, mRNAs originating from various tissues or cells are labeled with radioactive nucleotides. After hybridization and washing in controlled conditions, the hybridized mRNAs are detected by phospho-imaging or autoradiography. Duplicate experiments are performed and a quantitative analysis of differentially expressed mRNAs is then performed.

Alternatively, expression analysis of the EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids can be done through high density nucleotide arrays as described by Lockhart *et al.* (*Nature Biotechnology* **14**: 1675-1680, 1996) and Sosnowsky *et al.* (*Proc. Natl. Acad. Sci.* **94**:1119-1123, 1997). Oligonucleotides of 15-50 nucleotides corresponding to sequences of EST-related nucleic acids, fragments of EST related nucleic acids, positional segments EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids are synthesized

directly on the chip (Lockhart *et al.*, *supra*) or synthesized and then addressed to the chip (Sosnowsky *et al.*, *supra*). Preferably, the oligonucleotides are about 20 nucleotides in length.

cDNA probes labeled with an appropriate compound, such as biotin, digoxigenin or fluorescent dye, are synthesized from the appropriate mRNA population and then randomly fragmented to an average size of 50 to 100 nucleotides. The said probes are then hybridized to the chip. After washing as described in Lockhart *et al*, *supra* and application of different electric fields (Sonowsky et *al*, *supra*.), the dyes or labeling compounds are detected and quantified. Duplicate hybridizations are performed. Comparative analysis of the intensity of the signal originating from cDNA probes on the same target oligonucleotide in different cDNA samples indicates a differential expression of the mRNA corresponding to the 5' EST, consensus contigated 5' EST or extended cDNA from which the oligonucleotide sequence has been designed.

IV. Use of 5' ESTs or Consensus Contigated 5'ESTs to Clone Extended cDNAs and to Clone the Corresponding Genomic DNAs

Once 5' ESTs or consensus contigated 5' ESTs which include the 5' end of the corresponding mRNAs have been selected using the procedures described above, they can be utilized to isolate extended cDNAs which contain sequences adjacent to the 5' ESTs or consensus contigated 5' ESTs. The extended cDNAs may include the entire coding sequence of the protein encoded by the corresponding mRNA, including the authentic translation start site. If the extended cDNA encodes a secreted protein, it may contain the signal sequence, and the sequence encoding the mature protein remaining after cleavage of the signal peptide. Extended cDNAs which include the entire coding sequence of the protein encoded by the corresponding mRNA are referred to herein as "full-length cDNAs." Alternatively, the extended cDNAs may not include the entire coding sequence of the protein encoded by the corresponding mRNA, although they do include sequences adjacent to the 5'ESTs or consensus contigated 5' ESTs. In some embodiments in which the extended cDNAs are derived from an mRNA encoding a secreted protein, the extended cDNAs may include only the sequence encoding the mature protein remaining after cleavage of the signal peptide, or only the sequence encoding the signal peptide.

Example 17 below describes a general PCR based method for obtaining extended cDNAs using 5' ESTs or consensus contigated 5' ESTs. Example 18 describes hybridization based methods to obtain genomic DNAs which encode the mRNAs from which the 5' ESTs or consensus contigated 5' ESTS were derived, mRNAs from which the 5' ESTs or consensus contigated 5' ESTS were derived, or nucleic acids which are homologous to 5' ESTs-related nucleic acids. Example 19 below describes the cloning and sequencing of several extended cDNAs, including extended cDNAs which include the entire coding sequence and authentic 5' end of the corresponding mRNA for several secreted proteins.

The methods of Examples 17 and 18 can also be used to obtain extended cDNAs which encode less than the entire coding sequence of proteins encoded by the genes corresponding to the 5' ESTs or consensus contigated ESTs. In some embodiments, the extended cDNAs isolated using these methods encode at least 5,10, 15, 20, 25, 30, 35, 40, 50, 75, 100, or 150 consecutive amino acids of one of the proteins encoded by the sequences of SEQ ID NOs. 24-3883 and 7744-19335. In some embodiments, the extended cDNAs isolated using these methods encode at least 5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100, or 150 consecutive amino acids of one of the proteins encoded by the sequences of SEQ ID NOs. 24-3883.

EXAMPLE 17

General Method for Using 5' ESTs or Consensus Contigated 5'ESTs to Clone and Sequence Extended cDNAs which Include the Entire Coding Region and the Authentic 5'End of the Corresponding mRNA

The following general method may be used to quickly and efficiently isolate extended cDNAs including sequence adjacent to the sequences of the 5' ESTs or consensus contigated 5'ESTs used to obtain them. This method may be applied to obtain extended cDNAs for any 5' EST or consensus contigated 5' EST of the invention, including those 5' ESTs and consensus contigated 5' ESTs encoding secreted proteins. This method is illustrated in Figure 3.

1. Obtaining Extended cDNAs

The method takes advantage of the known 5' sequence of the mRNA. A reverse transcription reaction is conducted on purified mRNA with a poly dT primer containing a nucleotide sequence at its 5' end allowing the addition of a known sequence at the end of the cDNA which corresponds to the 3' end of the mRNA. Such a primer and a commercially-available reverse transcriptase enzyme are added to a buffered mRNA sample yielding a reverse transcript anchored at the 3' polyA site of the RNAs. Preferably, a thermostable enzyme is used. Nucleotide monomers are then added to complete the first strand synthesis.

After removal of the mRNA hybridized to the first cDNA strand by alkaline hydrolysis, the products of the alkaline hydrolysis and the residual poly dT primer can be eliminated with an exclusion column.

Subsequently, a pair of nested primers on each end of the cDNA to be amplified is designed based on the known 5' sequence from the 5' EST or consensus contigated 5' EST and the known 3' end added by the poly dT primer used in the first strand synthesis. Software used to design primers are either based on GC content and melting temperatures of oligonucleotides, such as OSP (Illier and Green, *PCR Meth. Appl.* 1:124-128, 1991), or based on the octamer frequency disparity method (Griffais *et al.*, *Nucleic Acids Res.* 19: 3887-3891, 1991) such as PC-Rare (see Worldwide Website: bioinformatics.weizmann.ac.il/software/PC-Rare/doc/manuel.html). Preferably, the nested primers at the 5' end and the nested primers at the 3' end are separated from one another by four to nine bases. These primer sequences may be selected to have melting temperatures and specificities suitable for use in PCR.

A first PCR run is performed using the outer primer from each of the nested pairs. A second PCR run using the inner primer from each of the nested pairs is then performed on a small sample of the first PCR product. Thereafter, the primers and remaining nucleotide monomers are removed.

It will be appreciated that a simple PCR reaction using a primer on each end of the cDNA to be amplified may also be performed rather than using a couple of primers for in a nested PCR procedure. However because of the possibility of PCR artifacts in this method, a nested PCR protocol is preferred.

2. Sequencing Extended cDNAs or Fragments Thereof

Due to the lack of position constraints on the design of 5' nested primers compatible for PCR use using the OSP software, amplicons of two types are obtained. Preferably, the second 5' primer is located upstream of the translation initiation codon thus yielding a nested PCR product containing the entire coding sequence. Such an extended cDNA may be used in a direct cloning procedure as described in section a below. However, in some cases, the second 5' primer is located downstream of the translation initiation codon, thereby yielding a PCR product containing only part of the ORF. Such incomplete PCR products are submitted to a modified procedure described in section b below.

a) Nested PCR products containing complete ORFs

When the resulting nested PCR product contains the complete coding sequence, as predicted from the 5'EST or consensus contigated 5' EST sequence, it is directly cloned in an appropriate vector as described in section 3.

b) Nested PCR products containing incomplete ORFs

When the amplicon does not contain the complete coding sequence, intermediate steps are necessary to obtain both the complete coding sequence and a PCR product containing the full coding sequence. The complete coding sequence can be assembled from several partial sequences determined directly from different PCR products.

Once the full coding sequence has been completely determined, new primers compatible for PCR use are then designed to obtain amplicons containing the whole coding region. However, in such cases, 3' primers compatible for PCR use are located inside the 3' UTR of the corresponding mRNA, thus yielding amplicons which lack part of this region, *i.e.* the polyA tract and sometimes the polyadenylation signal, as illustrated in Figure 3. Such extended cDNAs are then cloned into an appropriate vector as described in section 3.

c) Sequencing extended cDNAs

Sequencing of extended cDNAs can be performed using a Dye Terminator approach with the AmpliTaq DNA polymerase FS kit available from Perkin Elmer.

In order to sequence long PCR fragments, primer walking is performed using software such as OSP to choose primers and automated computer software such as ASMG

(Sutton *et al., Genome Science Technol.* **1**: 9-19, 1995) to construct contigs of walking sequences including the initial 5' tag. Preferably, primer walking is performed until the sequences of full length cDNAs are obtained.

Completion of the sequencing of a given extended cDNA fragment may be assessed by comparing the sequence length to the size of the corresponding nested PCR product. When Northern blot data are available, the size of the mRNA detected for a given PCR product may also be used to finally assess that the sequence is complete. Sequences which do not fulfill these criteria are discarded and will undergo a new isolation procedure.

3. Cloning Extended cDNAs

The PCR product containing the full coding sequence is then cloned in an appropriate vector. For example, the extended cDNAs can be cloned into any expression vector known in the art, such as pED6dpc2 for extended cDNA encoding potentially secreted proteins (DiscoverEase, Genetics Institute, Cambridge, MA).

Cloned PCR products are then entirely sequenced in order to obtain at least two sequences per clone. Preferably, the sequences are obtained from both sense and antisense strands according to the aforementioned procedure with the following modifications. First, both 5' and 3' ends of cloned PCR products are sequenced in order to confirm the identity of the clone. Second, primer walking is performed if the full coding region has not been obtained yet. Contigation is then performed using primer walking sequences for cloned products as well as walking sequences that have already contigated for uncloned PCR products. The sequence is considered complete when the resulting contigs include the whole coding region as well as overlapping sequences with vector DNA on both ends. All the contigated sequences for each cloned amplicon are then used to obtain a consensus sequence.

4. Selection of Cloned Full length Sequences

a) Computer analysis of extended cDNAs

Following identification of contaminants and masking of repeats, structural features, e.g. polyA tail and polyadenylation signal, of the sequences of extended cDNAs are subsequently determined using methods known to those skilled in the art. For example, the algorithm, parameters and criteria defined in Figure 10 may be used.

Briefly, a polyA tail is defined as a homopolymeric stretch of at least 11 A with at most one alternative base within it. The polyA tail search is restricted to the last 20 nucleotides of the sequence and limited to stretches of 11 consecutive A's because sequencing reactions are often not readable after such a polyA stretch. To search for a polyadenylation signal, the polyA tail is clipped from the full-length sequence. The 50 nucleotides preceding the polyA tail are searched for the canonic polyadenylation AAUAAA signal allowing one mismatch to account for possible sequencing errors as well as known variation in the canonical sequence of the polyadenylation signal.

Functional features, e.g. ORFs and signal sequences, of the sequences of extended cDNAs are subsequently determined as follows. The 3 upper strand frames of extended cDNAs are searched for ORFs defined as the maximum length fragments beginning with a translation initiation codon and ending with a stop codon. ORFs encoding at least 80 amino acids are preferred. If extended cDNAs encoding secreted proteins are desired, each identified ORF is then scanned for the presence of a signal peptide using the matrix method described in Example 11.

Sequences of extended cDNAs are then compared, on a nucleotidic or proteic basis, to public sequences available at the time of filing.

b) Selection of full-length cDNAs of interest

A negative selection may then be performed in order to eliminate unwanted cloned sequences resulting from either contaminants or PCR artifacts as follows. Sequences matching contaminant sequences such as vector DNA, tRNA, mtRNA, rRNA sequences are discarded as well as those encoding ORF sequences exhibiting extensive homology to repeats. Sequences obtained by direct cloning (section 1a) but lacking polyA tail may be discarded. Only ORFs ending either before the polyA tail (section 1a) or before the end of the cloned 3'UTR (section 1b) may be selected. If extended cDNAs encoding secreted proteins are desired, ORFs containing a signal peptide are considered. In addition, ORFs containing unlikely mature proteins such as mature proteins which size is less than 20 amino acids or less than 25% of the immature protein size may be eliminated if necessary.

Then, for each remaining full length cDNA containing several ORFs, a preselection of ORFs may be performed using the following criteria. The longest ORF is preferred. If extended cDNAs encoding secreted proteins are desired and if the ORF sizes

are similar, the chosen ORF is the one which signal peptide has the highest score according to Von Heijne method.

Sequences of full length cDNA clones may then be compared pairwise after masking of the repeat sequences. Full-length cDNA sequences exhibiting extensive homology may be clustered in the same class. Each cluster may then be subjected to a cluster analysis that detects sequences resulting from internal priming or from alternative splicing, identical sequences or sequences with several frameshifts. A selection may be operated between clones belonging to the same class in order to detect clones encoding homologous but distinct ORFs which may be both selected if they both contain sequences of interest.

Selection of full-length cDNA clones encoding sequences of interest may subsequently be performed using the following criteria. Structural parameters (initial tag, polyadenylation site and signal) are first checked. Then, homologies with known nucleic acids and proteins are examined in order to determine whether the clone sequence match a known nucleotide/protein sequence and, in the latter case, its covering rate and the date at which the sequence became public. If there is no extensive match with sequences other than ESTs or genomic DNA, or if the clone sequence provides substantial new information, such as encoding a protein resulting from alternative splicing of an mRNA coding for an already known protein, the sequence is kept. Examples of such cloned full-length cDNAs containing sequences of interest are described in Example 19. Sequences resulting from chimera or double inserts or located on chromosome breaking points as assessed by homology to other sequences may be discarded during this procedure.

Extended cDNAs prepared as described above may be subsequently engineered to obtain nucleic acids which include desired portions of the extended cDNA using conventional techniques such as subcloning, PCR, or *in vitro* oligonucleotide synthesis. For example, nucleic acids which include only the full coding sequences may be obtained using techniques known to those skilled in the art. Alternatively, conventional techniques may be applied to obtain nucleic acids which contain only part of the coding sequences. In the case of nucleic acids encoding secreted proteins, nucleic acids containing only the coding sequence for the mature protein remaining after the signal peptide is cleaved off or

nucleic acids which contain only the coding sequences for the signal peptides may be obtained.

Similarly, nucleic acids containing any other desired portion of the coding sequences for the encoded protein may be obtained. For example, the nucleic acid may contain at least 10, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400, 500, 1000 or 2000 consecutive bases of an extended cDNA.

Once an extended cDNA has been obtained, it can be sequenced to determine the amino acid sequence it encodes. Once the encoded amino acid sequence has been determined, one can create and identify any of the many conceivable cDNAs that will encode that protein by simply using the degeneracy of the genetic code. For example, allelic variants or other homologous nucleic acids can be identified as described below. Alternatively, nucleic acids encoding the desired amino acid sequence can be synthesized *in vitro*.

In a preferred embodiment, the coding sequence may be selected using the known codon or codon pair preferences for the host organism in which the cDNA is to be expressed.

In addition to PCR based methods for obtaining cDNAs which include the authentic 5'end of the corresponding mRNA as well as the complete protein coding sequence of the corresponding mRNA, traditional hybridization based methods may also be employed. These methods may also be used to obtain the genomic DNAs which encode the mRNAs from which the 5' ESTs or consensus contigated 5' ESTS were derived, mRNAs from which the 5' ESTs or consensus contigated 5' ESTS were derived, or nucleic acids which are homologous to EST-related nucleic acids. In particular, such methods may be used to obtain extended cDNAs which include the entire coding region of the mRNAs from which the 5'EST or consensus contigated 5'ESTs was derived. Example 18 below provides examples of such methods.

EXAMPLE 18

Methods for Obtaining Extended cDNAs which Include the Entire Coding Region and the Authentic 5'End of the Corresponding mRNA or Nucleic Acids Homologous to Extended cDNAs, 5' ESTs or Consensus Contigated 5' ESTs

A full-length cDNA library can be made using the strategies described in Examples 1-5. Alternatively, a cDNA library or genomic DNA library may be obtained from a commercial source or made using techniques familiar to those skilled in the art.

Such cDNA or genomic DNA libraries may be used to isolate extended cDNAs obtained from 5' ESTs or consensus contigated 5' ESTs or nucleic acids homologous to extended cDNAs, 5' ESTs, or consensus contigated 5' ESTs as follows. The cDNA library or genomic DNA library is hybridized to a detectable probe. The detectable probe may comprise at least 10, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400 or 500 consecutive nucleotides of the 5' EST, consensus contigated 5' EST, or extended cDNA. Techniques for identifying cDNA clones in a cDNA library which hybridize to a given probe sequence are disclosed in Sambrook *et al., Molecular Cloning: A Laboratory Manual 2d Ed.*, Cold Spring Harbor Laboratory Press, 1989, the disclosure of which is incorporated herein by reference. The same techniques may be used to isolate genomic DNAs.

Briefly, cDNA or genomic DNA clones which hybridize to the detectable probe are identified and isolated for further manipulation as follows. The detectable probe described in the preceding paragraph is labeled with a detectable label such as a radioisotope or a fluorescent molecule. Techniques for labeling the probe are well known and include phosphorylation with polynucleotide kinase, nick translation, *in vitro* transcription, and non radioactive techniques. The cDNAs or genomic DNAs in the library are transferred to a nitrocellulose or nylon filter and denatured. After blocking of non specific sites, the filter is incubated with the labeled probe for an amount of time sufficient to allow binding of the probe to cDNAs or genomic DNAs containing a sequence capable of hybridizing thereto.

By varying the stringency of the hybridization conditions used to identify cDNAs or genomic DNAs which hybridize to the detectable probe, cDNAs or genomic DNAs

having different levels of homology to the probe can be identified and isolated as described below.

<u>1. Identification of cDNA or Genomic DNA Sequences Having a High Degree of Homology to the Labeled Probe</u>

To identify cDNAs or genomic DNAs having a high degree of homology to the probe sequence, the melting temperature of the probe may be calculated using the following formulas:

For probes between 14 and 70 nucleotides in length the melting temperature (Tm) is calculated using the formula: Tm=81.5+16.6(log (Na+))+0.41(fraction G+C)-(600/N) where N is the length of the probe.

If the hybridization is carried out in a solution containing formamide, the melting temperature may be calculated using the equation Tm=81.5+16.6(log (Na+))+0.41(fraction G+C)-(0.63% formamide)-(600/N) where N is the length of the probe.

Prehybridization may be carried out in 6X SSC, 5X Denhardt's reagent, 0.5% SDS, 100 μg denatured fragmented salmon sperm DNA or 6X SSC, 5X Denhardt's reagent, 0.5% SDS, 100 μg denatured fragmented salmon sperm DNA, 50% formamide. The formulas for SSC and Denhardt's solutions are listed in Sambrook *et al., supra.*

Hybridization is conducted by adding the detectable probe to the prehybridization solutions listed above. Where the probe comprises double stranded DNA, it is denatured before addition to the hybridization solution. The filter is contacted with the hybridization solution for a sufficient period of time to allow the probe to hybridize to extended cDNAs or genomic DNAs containing sequences complementary thereto or homologous thereto. For probes over 200 nucleotides in length, the hybridization may be carried out at 15-25°C below the Tm. For shorter probes, such as oligonucleotide probes, the hybridization may be conducted at 15-25°C below the Tm. Preferably, for hybridizations in 6X SSC, the hybridization is conducted at approximately 68°C. Preferably, for hybridizations in 50% formamide containing solutions, the hybridization is conducted at approximately 42°C.

All of the foregoing hybridizations would be considered to be under "stringent" conditions.

Following hybridization, the filter is washed in 2X SSC, 0.1% SDS at room temperature for 15 minutes. The filter is then washed with 0.1X SSC, 0.5% SDS at room temperature for 30 minutes to 1 hour. Thereafter, the solution is washed at the hybridization temperature in 0.1X SSC, 0.5% SDS. A final wash is conducted in 0.1X SSC at room temperature.

cDNAs or genomic DNAs which have hybridized to the probe are identified by autoradiography or other conventional techniques.

2. Obtaining cDNA or Genomic DNA Sequences Having Lower Degrees of Homology to the Labeled Probe

The above procedure may be modified to identify cDNAs or genomic DNAs having decreasing levels of homology to the probe sequence. For example, to obtain cDNAs or genomic DNAs of decreasing homology to the detectable probe, less stringent conditions may be used. For example, the hybridization temperature may be decreased in increments of 5°C from 68°C to 42°C in a hybridization buffer having a sodium concentration of approximately 1M. Following hybridization, the filter may be washed with 2X SSC, 0.5% SDS at the temperature of hybridization. These conditions are considered to be "moderate" conditions above 50°C and "low" conditions below 50°C.

Alternatively, the hybridization may be carried out in buffers, such as 6X SSC, containing formamide at a temperature of 42°C. In this case, the concentration of formamide in the hybridization buffer may be reduced in 5% increments from 50% to 0% to identify clones having decreasing levels of homology to the probe. Following hybridization, the filter may be washed with 6X SSC, 0.5% SDS at 50°C. These conditions are considered to be "moderate" conditions above 25% formamide and "low" conditions below 25% formamide.

cDNAs or genomic DNAs which have hybridized to the probe are identified by autoradiography.

3. Determination of the Degree of Homology between the Obtained cDNAs or Genomic DNAs and 5'ESTs, Consensus Contigated 5'ESTs, or Extended cDNAs or Between the Polypeptides Encoded by the Obtained cDNAs or Genomic DNAs and the Polypeptides Encoded by the 5'ESTs, Consensus Contigated 5'ESTs, or Extended cDNAs

To determine the level of homology between the hybridized cDNA or genomic DNA and the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived, the nucleotide sequences of the hybridized nucleic acid and the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived are compared. The sequences of the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived and the sequences of the cDNA or genomic DNA which hybridized to the detectable probe may be stored on a computer readable medium as described below and compared to one another using any of a variety of algorithms familiar to those skilled in the art, those described below.

To determine the level of homology between the polypeptide encoded by the hybridizing cDNA or genomic DNA and the polypeptide encoded by the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived, the polypeptide sequence encoded by the hybridized nucleic acid and the polypeptide sequence encoded by the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived are compared. The sequences of the polypeptide encoded by the 5'EST, consensus contigated 5'EST or extended cDNA from which the probe was derived and the polypeptide sequence encoded by the cDNA or genomic DNA which hybridized to the detectable probe may be stored on a computer readable medium as described below and compared to one another using any of a variety of algorithms familiar to those skilled in the art, those described below.

Protein and/or nucleic acid sequence homologies may be evaluated using any of the variety of sequence comparison algorithms and programs known in the art. Such algorithms and programs include, but are by no means limited to, TBLASTN, BLASTP, FASTA, TFASTA, and CLUSTALW (Pearson and Lipman, 1988, *Proc. Natl. Acad. Sci. USA 85(8)*:2444-2448; Altschul *et al.*, 1990, *J. Mol. Biol. 215(3)*:403-410; Thompson *et al.*, 1994, *Nucleic Acids Res. 22(2)*:4673-4680; Higgins *et al.*, 1996,

Methods Enzymol. *266*:383-402; Altschul *et al.*, 1990, *J. Mol. Biol.* *215(3)*:403-410; Altschul *et al.*, 1993, *Nature Genetics 3*:266-272).

In a particularly preferred embodiment, protein and nucleic acid sequence homologies are evaluated using the Basic Local Alignment Search Tool ("BLAST") which is well known in the art (see, *e.g.*, Karlin and Altschul, 1990, *Proc. Natl. Acad. Sci. USA 87*:2267-2268; Altschul *et al.*, 1990, *J. Mol. Biol. 215*:403-410; Altschul *et al.*, 1993, *Nature Genetics 3*:266-272; Altschul *et al.*, 1997, *Nuc. Acids Res. 25*:3389-3402). In particular, five specific BLAST programs are used to perform the following task:

(1) BLASTP and BLAST3 compare an amino acid query sequence against a protein sequence database;

(2) BLASTN compares a nucleotide query sequence against a nucleotide sequence database;

(3) BLASTX compares the six-frame conceptual translation products of a query nucleotide sequence (both strands) against a protein sequence database;

(4) TBLASTN compares a query protein sequence against a nucleotide sequence database translated in all six reading frames (both strands); and

(5) TBLASTX compares the six-frame translations of a nucleotide query sequence against the six-frame translations of a nucleotide sequence database.

The BLAST programs identify homologous sequences by identifying similar segments, which are referred to herein as "high-scoring segment pairs," between a query amino or nucleic acid sequence and a test sequence which is preferably obtained from a protein or nucleic acid sequence database. High-scoring segment pairs are preferably identified (*i.e.*, aligned) by means of a scoring matrix, many of which are known in the art. Preferably, the scoring matrix used is the BLOSUM62 matrix (Gonnet *et al.*, 1992, *Science 256*:1443-1445; Henikoff and Henikoff, 1993, *Proteins 17*:49-61). Less preferably, the PAM or PAM250 matrices may also be used (see, *e.g.*, Schwartz and

Dayhoff, eds., 1978, *Matrices for Detecting Distance Relationships: Atlas of Protein Sequence and Structure*, Washington: National Biomedical Research Foundation)

The BLAST programs evaluate the statistical significance of all high-scoring segment pairs identified, and preferably selects those segments which satisfy a user-specified threshold of significance, such as a user-specified percent homology. Preferably, the statistical significance of a high-scoring segment pair is evaluated using the statistical significance formula of Karlin (see, *e.g.*, Karlin and Altschul, 1990, *Proc. Natl. Acad. Sci. USA* 87:2267-2268).

The parameters used with the above algorithms may be adapted depending on the sequence length and degree of homology studied. In some embodiments, the parameters may be the default parameters used by the algorithms in the absence of instructions from the user.

In some embodiments, the level of homology between the hybridized nucleic acid and the extended cDNA, 5'EST, or 5' consensus contigated EST from which the probe was derived may be determined using the FASTDB algorithm described in Brutlag *et al. Comp. App. Biosci.* 6:237-245, 1990. In such analyses the parameters may be selected as follows: Matrix=Unitary, k-tuple=4, Mismatch Penalty=1, Joining Penalty=30, Randomization Group Length=0, Cutoff Score=1, Gap Penalty=5, Gap Size Penalty=0.05, Window Size=500 or the length of the sequence which hybridizes to the probe, whichever is shorter. Because the FASTDB program does not consider 5'or 3'truncations when calculating homology levels, if the sequence which hybridizes to the probe is truncated relative to the sequence of the extended cDNA, 5'EST, or consensus contigated 5'EST from which the probe was derived the homology level is manually adjusted by calculating the number of nucleotides of the extended cDNA, 5'EST, or consensus contigated 5' EST which are not matched or aligned with the hybridizing sequence, determining the percentage of total nucleotides of the hybridizing sequence which the non-matched or non-aligned nucleotides represent, and subtracting this percentage from the homology level. For example, if the hybridizing sequence is 700 nucleotides in length and the extended cDNA, 5'EST, or consensus contigated 5' EST sequence is 1000 nucleotides in length wherein the first 300 bases at the 5'end of the extended cDNA, 5'EST, or consensus contigated 5' EST are absent from the hybridizing sequence, and wherein the overlapping

700 nucleotides are identical, the homology level would be adjusted as follows. The non-matched, non-aligned 300 bases represent 30% of the length of the extended cDNA, 5'EST, or consensus contigated 5' EST. If the overlapping 700 nucleotides are 100% identical, the adjusted homology level would be 100-30=70% homology. It should be noted that the preceding adjustments are only made when the non-matched or non-aligned nucleotides are at the 5'or 3'ends. No adjustments are made if the non-matched or non-aligned sequences are internal or under any other conditions.

For example, using the above methods, nucleic acids having at least 95% nucleic acid homology, at least 96% nucleic acid homology, at least 97% nucleic acid homology, at least 98% nucleic acid homology, at least 99% nucleic acid homology, or more than 99% nucleic acid homology to the extended cDNA, 5'EST, or consensus contigated 5' EST from which the probe was derived may be obtained and identified. Such nucleic acids may be allelic variants or related nucleic acids from other species. Similarly, by using progressively less stringent hybridization conditions one can obtain and identify nucleic acids having at least 90%, at least 85%, at least 80% or at least 75% homology to the extended cDNA, 5'EST, or consensus contigated 5' EST from which the probe was derived.

Using the above methods and algorithms such as FASTA with parameters depending on the sequence length and degree of homology studied, for example the default parameters used by the algorithms in the absence of instructions from the user, one can obtain nucleic acids encoding proteins having at least 99%, at least 98%, at least 97%, at least 96%, at least 95%, at least 90%, at least 85%, at least 80% or at least 75% homology to the protein encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST from which the probe was derived. In some embodiments, the homology levels can be determined using the "default" opening penalty and the "default" gap penalty, and a scoring matrix such as PAM 250 (a standard scoring matrix; see Dayhoff et al., in: Atlas of Protein Sequence and Structure, Vol. 5, Supp. 3 (1978)).

Alternatively, the level of polypeptide homology may be determined using the FASTDB algorithm described by Brutlag et al. Comp. App. Biosci. 6:237-245, 1990. In such analyses the parameters may be selected as follows: Matrix=PAM 0, k-tuple=2, Mismatch Penalty=1, Joining Penalty=20, Randomization Group Length=0, Cutoff

Score=1, Window Size=Sequence Length, Gap Penalty=5, Gap Size Penalty=0.05, Window Size=500 or the length of the homologous sequence, whichever is shorter. If the homologous amino acid sequence is shorter than the amino acid sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST as a result of an N terminal and/or C terminal deletion the results may be manually corrected as follows. First, the number of amino acid residues of the amino acid sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST which are not matched or aligned with the homologous sequence is determined. Then, the percentage of the length of the sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST which the non-matched or non-aligned amino acids represent is calculated. This percentage is subtracted from the homology level. For example wherein the amino acid sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST is 100 amino acids in length and the length of the homologous sequence is 80 amino acids and wherein the amino acid sequence encoded by the extended cDNA or 5'EST is truncated at the N terminal end with respect to the homologous sequence, the homology level is calculated as follows. In the preceding scenario there are 20 non-matched, non-aligned amino acids in the sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST. This represents 20% of the length of the amino acid sequence encoded by the extended cDNA, 5'EST, or consensus contigated 5' EST. If the remaining amino acids are 1005 identical between the two sequences, the homology level would be 100%-20%=80% homology. No adjustments are made if the non-matched or non-aligned sequences are internal or under any other conditions.

In addition to the above described methods, other protocols are available to obtain extended cDNAs using 5' ESTs or consensus contigated 5'ESTs as outlined in the following paragraphs.

Extended cDNAs may be prepared by obtaining mRNA from the tissue, cell, or organism of interest using mRNA preparation procedures utilizing polyA selection procedures or other techniques known to those skilled in the art. A first primer capable of hybridizing to the polyA tail of the mRNA is hybridized to the mRNA and a reverse transcription reaction is performed to generate a first cDNA strand.

The first cDNA strand is hybridized to a second primer containing at least 10 consecutive nucleotides of the sequences of SEQ ID NOs 24-3883 and 7744-19335. Preferably, the primer comprises at least 10, 12, 15, 17, 18, 20, 23, 25, or 28 consecutive nucleotides from the sequences of SEQ ID NOs 24-3883 and 7744-19335. In some embodiments, the primer comprises more than 30 nucleotides from the sequences of SEQ ID NOs 24-3883 and 7744-19335. If it is desired to obtain extended cDNAs containing the full protein coding sequence, including the authentic translation initiation site, the second primer used contains sequences located upstream of the translation initiation site. The second primer is extended to generate a second cDNA strand complementary to the first cDNA strand. Alternatively, RT-PCR may be performed as described above using primers from both ends of the cDNA to be obtained.

Extended cDNAs containing 5' fragments of the mRNA may be prepared by hybridizing an mRNA comprising the sequences of SEQ ID NOs. 24-3883 and 7744-19335 with a primer comprising a complementary to a fragment of an EST-related nucleic acid hybridizing the primer to the mRNAs, and reverse transcribing the hybridized primer to make a first cDNA strand from the mRNAs. Preferably, the primer comprises at least 10, 12, 15, 17, 18, 20, 23, 25, or 28 consecutive nucleotides of the sequences complementary to SEQ ID NOs. 24-3883 and 7744-19335.

Thereafter, a second cDNA strand complementary to the first cDNA strand is synthesized. The second cDNA strand may be made by hybridizing a primer complementary to sequences in the first cDNA strand to the first cDNA strand and extending the primer to generate the second cDNA strand.

The double stranded extended cDNAs made using the methods described above are isolated and cloned. The extended cDNAs may be cloned into vectors such as plasmids or viral vectors capable of replicating in an appropriate host cell. For example, the host cell may be a bacterial, mammalian, avian, or insect cell.

Techniques for isolating mRNA, reverse transcribing a primer hybridized to mRNA to generate a first cDNA strand, extending a primer to make a second cDNA strand complementary to the first cDNA strand, isolating the double stranded cDNA and cloning the double stranded cDNA are well known to those skilled in the art and are described *in Current Protocols in Molecular Biology*, John Wiley & Sons, Inc. 1997 and

Sambrook *et al.*, Molecular Cloning: A Laboratory Manual, Second Edition, Cold Spring Harbor Laboratory Press, 1989, the entire disclosures of which are incorporated herein by reference.

Alternatively, other procedures may be used for obtaining full-length cDNAs or extended cDNAs. In one approach, full-length or extended cDNAs are prepared from mRNA and cloned into double stranded phagemids as follows. The cDNA library in the double stranded phagemids is then rendered single stranded by treatment with an endonuclease, such as the Gene II product of the phage F1 and an exonuclease (Chang *et al.*, *Gene* **127**:95-8, 1993). A biotinylated oligonucleotide comprising the sequence of a fragment of an EST-related nucleic acid is hybridized to the single stranded phagemids. Preferably, the fragment comprises at least 10, 12, 15, 17, 18, 20, 23, 25, or 28 consecutive nucleotides of the sequences of SEQ ID NOs. 24-3883 and 7744-19335.

Hybrids between the biotinylated oligonucleotide and phagemids are isolated by incubating the hybrids with streptavidin coated paramagnetic beads and retrieving the beads with a magnet (Fry *et al.*, *Biotechniques*, **13**: 124-131, 1992). Thereafter, the resulting phagemids are released from the beads and converted into double stranded DNA using a primer specific for the 5' EST or consensus contigated 5'EST sequence used to design the biotinylated oligonucleotide. Alternatively, protocols such as the Gene Trapper kit (Gibco BRL) may be used. The resulting double stranded DNA is transformed into bacteria. Extended cDNAs or full length cDNAs containing the 5' EST or consensus contigated 5'EST sequence are identified by colony PCR or colony hybridization.

EXAMPLE 19

Extended cDNAs and Full Length cDNAs

The procedure described in Example 17 was used to obtain extended cDNAs or full length cDNAs derived from 5' ESTs in a variety of tissues. The following list provides a few examples of thus obtained cDNAs.

Using this procedure, the full length cDNA of SEQ ID NO.1 (internal identification number 58-34-2-E7-FL2) was obtained. This cDNA encodes the signal peptide MWWFQQGLSFLPSALVIWTSA (SEQ ID NO.2) having a von Heijne score of 5.5.

Using this approach, the full length cDNA of SEQ ID NO.3 (internal identification number 48-19-3-G1-FL1) was obtained. This cDNA encodes the signal peptide MKKVLLLITAILAVAVG (SEQ ID NO. 4) having a von Heijne score of 8.2.

The full length cDNA of SEQ ID NO.5 (internal identification number 58-35-2-F10-FL2) was also obtained using this procedure. This cDNA encodes a signal peptide LWLLFFLVTAIHA (SEQ ID NO.6) having a von Heijne score of 10.7.

Furthermore, the polypeptides encoded by the extended or full-length cDNAs may be screened for the presence of known structural or functional motifs or for the presence of signatures, small amino acid sequences which are well conserved amongst the members of a protein family. The results obtained for the polypeptides encoded by a few full-length cDNAs derived from 5'ESTs that were screened for the presence of known protein signatures and motifs using the Proscan software from the GCG package and the Prosite 15.0 database are provided below.

The protein of SEQ ID NO. 8 encoded by the full-length cDNA SEQ ID NO. 7 (internal designation 78-8-3-E6-CL0_1C) and expressed in adult prostate belong to the phosphatidylethanolamine-binding protein from which it exhibits the characteristic PROSITE signature. Proteins from this widespread family, from nematodes to fly, yeast, rodent and primate species, bind hydrophobic ligands such as phospholipids and nucleotides. They are mostly expressed in brain and in testis and are thought to play a role in cell growth and/or maturation, in regulation of the sperm maturation, motility and in membrane remodeling. They may act either through signal transduction or through oxidoreduction reactions (for a review see Schoentgen and Jollès, *FEBS Letters*, **369**:22-26 (1995)). Taken together, these data suggest that the protein of SEQ ID NO. 8 may play a role in cell growth, maturation and in membrane remodeling and/or may be related to male fertility. Thus, these protein may be useful in diagnosing and/or treating cancer, neurodegenerative diseases, and/or disorders related to male fertility and sterility.

The protein of SEQ ID NOs. 10 encoded by the extended cDNA SEQ ID NO. 9 (internal designation 59-9-2-E6-FL0_1C) belong to the stomatin or band 7 family. The human stomatin is an integral membrane phosphoprotein thought to regulate the cation conductance by interacting with other proteins of the junctional complex of the

membrane skeleton (Gallagher and Forget, *J. Biol. Chem.*, **270**:26358-26363 (1995)). The protein of SEQ ID NO. 10 exhibits the PROSITE signature typical for the band 7 family signature. Taken together, these data suggest that the protein of SEQ ID NO. 10 plays a role in the regulation of ion transport, hence in the control of cellular volume. This protein may find applications in diagnosing and/or treating stomatocytosis and/or cryohydrocytosis.

The protein of SEQ ID NO. 12 encoded by the extended cDNA SEQ ID NO. 11 (internal designation 19-10-1-C2-CL1 3) shows homology with the bovine subunit B14.5B of the NADH-ubiquinone oxidureductase complex (Arizmendi *et al, FEBS Lett.*, **313** : 80-84 (1992) and Swissprot accession number Q02827). This complex is the first of four complexes located in the inner mitochondrial membrane which make up the mitochondrial electron transport chain. Complex I is involved in the dehydrogenation of NADH and the transportation of electrons to coenzyme Q. It is composed of 7 subunits encoded by the mitochondrial genome and 34 subunits encoded by the nuclear genome. It is also thought to play a role in the regulation of apoptosis and necrosis. Mitochondriocytopathies due to complex I deficiency are frequently encountered and affect tissues with a high energy demand such as brain (mental retardation, convulsions, movement disorders), heart (cardiomyopathy, conduction disorders), kidney (Fanconi syndrome), skeletal muscle (exercise intolerance, muscle weakness, hypotonia) and/or eye (opthmaloplegia, ptosis, cataract and retinopathy). For a review on complex I see Smeitink *et al., Hum. Mol. Gent.*, **7** : 1573-1579 (1998). Taken together, these data suggest that the protein of SEQ ID NO. 12 may be part of the mitochondrial energy-generating system, probably as a subunit of the NADH-ubiquinone oxidoreductase complex. Thus, this protein or part therein, may find applications in diagnosing and/or treating several disorders including, but not limited to, brain disorders (mental retardation, convulsions, movement disorders), heart disorders (cardiomyopathy, conduction disorders), kidney disorders (Fanconi syndrome), skeletal muscle disorders (exercise intolerance, muscle weakness, hypotonia) and/or eye disorders opthmalmoplegia, ptosis, cataract and retinopathy).

The protein of SEQ ID NO.14 encoded by the extended cDNA SEQ ID NO. 13 (internal designation 77-13-1-C11-FL2_2C) exhibits an extensive homology with a

murine protein named MP1 for MEK binding partner 1 (Genbank accession number AF082526). MP1 was shown to enhance enzymatic activation of mitogen-activated protein (MAP) kinase cascade. The MAP kinase pathway is one of the important enzymatic cascade that is conserved among all eukaryotes from yeast to human. This kind of pathway is involved in vital functions such as the regulation of growth, differentiation and apoptosis. MP1 probably acts by facilitating the interaction of the two sequentially acting kinases MEK1 and ERK1 (Schaffer *et al.*, *Science*, **281**:1668-1671 (1998)). Taken together, these data suggest that the protein of SEQ ID NO. 14 may be involved in regulating protein-protein interaction in the signal transduction pathways. Thus, this protein may be useful in diagnosing and/or treating several types of disorders including, but not limited to, cancer, neurodegenerative diseases, cardiovascular disorders, hypertension, renal injury and repair and septic shock.

Bacterial clones containing plasmids containing the full length cDNAs described above are presently stored in the inventor's laboratories under the internal identification numbers provided above. The inserts may be recovered from the deposited materials by growing an aliquot of the appropriate bacterial clone in the appropriate medium. The plasmid DNA can then be isolated using plasmid isolation procedures familiar to those skilled in the art such as alkaline lysis minipreps or large scale alkaline lysis plasmid isolation procedures. If desired the plasmid DNA may be further enriched by centrifugation on a cesium chloride gradient, size exclusion chromatography, or anion exchange chromatography. The plasmid DNA obtained using these procedures may then be manipulated using standard cloning techniques familiar to those skilled in the art. Alternatively, a PCR can be done with primers designed at both ends of the EST insertion. The PCR product which corresponds to the 5'EST can then be manipulated using standard cloning techniques familiar to those skilled in the art.

Using any of the above described methods in section IV, a plurality of extended cDNAs containing full-length protein coding sequences or portions of the protein coding sequences may be provided as cDNA libraries for subsequent evaluation of the encoded proteins or use in diagnostic assays as described below.

V. Expression of Proteins Encoded by EST-related nucleic acids

EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, and fragments of positional segments of EST-related nucleic acids may be used to express the polypeptides which they encode. In particular, they may be used to express EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides. In some embodiments, the EST-related nucleic acids, positional segments of EST-related nucleic acids, and fragments of positional segments of EST-related nucleic acids may be used to express the full polypeptide (i.e. the signal peptide and the mature polypeptide) of a secreted protein, the mature protein (i.e. the polypeptide generated after cleavage of the signal peptide), or the signal peptide of a secreted protein. If desired, nucleic acids encoding the signal peptide may be used to facilitate secretion of the expressed protein. It will be appreciated that a plurality of EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids may be simultaneously cloned into expression vectors to create an expression library for analysis of the encoded proteins as described below.

EXAMPLE 20

Expression of the Proteins Encoded by the Genes Corresponding to the 5'ESTs or Consensus Contigated 5' ESTs

To express their encoded proteins the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, or fragments of positional segments of EST-related nucleic acids are cloned into a suitable expression vector. In some instances, nucleic acids encoding EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides may be cloned into a suitable expression vector.

In some embodiments, the nucleic acids inserted into the expression vector may comprise the coding sequence of a sequence selected from the group consisting of 24-3883. In other embodiments, the nucleic acids inserted into the expression vector may

comprise may comprise the full coding sequence (i.e. the nucleotides encoding the signal peptide and the mature polypeptide) of one of SEQ ID NOs. 1339-2059. In some embodiments, the nucleic acid inserted into the expression vector may comprise the nucleotides of one of the sequences of SEQ ID NOs. 1339-2059 which encode the mature polypeptide (i.e. the nucleotides encoding the polypeptide generated after cleavage of the signal peptide). In further embodiments, the nucleic acids inserted into the expression vector may comprise the nucleotides of SEQ ID NOs. 24-383 and 1339-2059 which encode the signal peptide to facilitate secretion of the expressed protein. The nucleic acids inserted into the expression vectors may also contain sequences upstream of the sequences encoding the signal peptide, such as sequences which regulate expression levels or sequences which confer tissue specific expression.

The nucleic acid inserted into the expression vector may encode a polypeptide comprising the one of the sequences of SEQ ID NOs. 3884-7743. In some embodiments, the nucleic acid inserted into the expression vector may encode the full polypeptide sequence (i.e. the signal peptide and the mature polypeptide) included in one of SEQ ID NOs. 5199-5919. In other embodiments, the nucleic acid inserted into the expression vector may encode the mature polypeptide (i.e. the polypeptide generated after cleavage of the signal peptide) included in one of the sequences of SEQ ID NOs. 5199-5919. In further embodiments, the nucleic acids inserted into the expression vector may encode the signal peptide included in one of the sequences of 3884-4243 and 5199-5919.

The nucleic acid encoding the protein or polypeptide to be expressed is operably linked to a promoter in an expression vector using conventional cloning technology. The expression vector may be any of the mammalian, yeast, insect or bacterial expression systems known in the art. Commercially available vectors and expression systems are available from a variety of suppliers including Genetics Institute (Cambridge, MA), Stratagene (La Jolla, California), Promega (Madison, Wisconsin), and Invitrogen (San Diego, California). If desired, to enhance expression and facilitate proper protein folding, the codon context and codon pairing of the sequence may be optimized for the particular expression organism in which the expression vector is introduced, as explained by Hatfield, *et al.*, U.S. Patent No. 5,082,767, incorporated herein by this reference.

The following is provided as one exemplary method to express the proteins encoded by the nucleic acids described above. In some instances the nucleic acid encoding the protein or polypeptide to be expressed includes a methionine initiation codon and a polyA signal. If the nucleic acid encoding the polypeptide to be expressed lacks a methionine to serve as the initiation site, an initiating methionine can be introduced next to the first codon of the nucleic acid using conventional techniques. Similarly, if the nucleic acid encoding the protein or polypeptide to be expressed lacks a polyA signal, this sequence can be added to the construct by, for example, splicing out the polyA signal from pSG5 (Stratagene) using BglI and SalI restriction endonuclease enzymes and incorporating it into the mammalian expression vector pXT1 (Stratagene). pXT1 contains the LTRs and a portion of the *gag* gene from Moloney Murine Leukemia Virus. The position of the LTRs in the construct allow efficient stable transfection. The vector includes the Herpes Simplex thymidine kinase promoter and the selectable neomycin gene. The nucleic acid encoding the polypeptide to be expressed is obtained by PCR from the bacterial vector using oligonucleotide primers complementary to the nucleic acid encoding the protein or polypeptide to be expressed and containing restriction endonuclease sequences for Pst I incorporated into the 5'primer and BglII at the 5' end of 3' primer, taking care to ensure that the nucleic acid encoding the protein or polypeptide to be expressed is correctly positioned with respect to the poly A signal. The purified fragment obtained from the resulting PCR reaction is digested with PstI, blunt ended with an exonuclease, digested with Bgl II, purified and ligated to pXT1, now containing a poly A signal and digested with BglII.

The ligated product is transfected into mouse NIH 3T3 cells using Lipofectin (Life Technologies, Inc., Grand Island, New York) under conditions outlined in the product specification. Positive transfectants are selected after growing the transfected cells in 600 μg/ml G418 (Sigma, St. Louis, Missouri).

Alternatively, the nucleic acid encoding the protein or polypeptide to be expressed may be cloned into pED6dpc2 as described above. The resulting pED6dpc2 constructs may be transfected into a suitable host cell, such as COS 1 cells. Methotrexate resistant cells are selected and expanded. The expressed protein or polypeptide may be isolated, purified, or enriched as described above.

To confirm expression of the desired protein or polypeptide, the proteins or polypeptides produced by cells containing a vector with a nucleic acid insert encoding the protein or polypeptide are compared to those lacking such an insert. The expressed proteins are detected using techniques familiar to those skilled in the art such as Coomassie blue or silver staining or using antibodies against the protein or polypeptide encoded by the nucleic acid insert. Antibodies capable of specifically recognizing the protein of interest may be generated using synthetic 15-mer peptides having a sequence encoded by the appropriate nucleic acid. The synthetic peptides are injected into mice to generate antibody to the polypeptide encoded by the nucleic acid.

If the proteins or polypeptides encoded by the nucleic acid inserts are secreted, medium prepared from the host cells or organisms containing an expression vector which contains a nucleic acid insert encoding the desired protein or polypeptide is compared to mdieum prepared from the control cells or organism. The presence of a band in medium from the cells containing the nucleic acid insert which is absent from preparations from the control cells indicates that the protein or polypeptide encoded by the nucleic acid insert is being expressed and secreted. Generally, the band corresponding to the protein encoded by the nucleic acid insert will have a mobility near that expected based on the number of amino acids in the open reading frame of the nucleic acid insert. However, the band may have a mobility different than that expected as a result of modifications such as glycosylation, ubiquitination, or enzymatic cleavage.

Alternatively, if the protein expressed from the above expression vectors does not contain sequences directing its secretion, the proteins expressed from host cells containing an expression vector with an insert encoding a secreted protein or portion thereof can be compared to the proteins expressed in control host cells containing the expression vector without an insert. The presence of a band in samples from cells containing the expression vector with an insert which is absent in samples from cells containing the expression vector without an insert indicates that the desired protein or portion thereof is being expressed. Generally, the band will have the mobility expected for the secreted protein or portion thereof. However, the band may have a mobility different than that expected as a result of modifications such as glycosylation, ubiquitination, or enzymatic cleavage.

The expressed protein or polypeptide may be purified, isolated or enriched using a variety of methods. In some methods, the protein or polypeptide may be secreted into the culture medium via a native signal peptide or a heterologous signal peptide operably linked thereto. In some methods, the protein or polypeptide may be linked to a heterologous polypeptide which facilitates its isolation, purification, or enrichment such as a nickel binding polypeptide. The protein or polypeptide may also be obtained by gel electrophoresis, ion exchange chromatography, size chromatography, hplc, salt precipitation, immunoprecipitation, a combination of any of the preceding methods, or any of the isolation, purification, or enrichment techniques familiar to those skilled in the art.

The protein encoded by the nucleic acid insert may also be purified using standard immunochromatography techniques using immunoaffinity chromatography with antibodies directed against the encoded protein or polypeptide as described in more detail below. If antibody production is not possible, the nucleic acid insert encoding the desired protein or polypeptide may be incorporated into expression vectors designed for use in purification schemes employing chimeric polypeptides. In such strategies, the coding sequence of the nucleic acid insert is ligated in frame with the gene encoding the other half of the chimera. The other half of the chimera may be β-globin or a nickel binding polypeptide. A chromatography matrix having antibody to β-globin or nickel attached thereto is then used to purify the chimeric protein. Protease cleavage sites may be engineered between the β-globin gene or the nickel binding polypeptide and the extended cDNA or portion thereof. Thus, the two polypeptides of the chimera may be separated from one another by protease digestion.

One useful expression vector for generating β-globin chimerics is pSG5 (Stratagene), which encodes rabbit β-globin. Intron II of the rabbit β-globin gene facilitates splicing of the expressed transcript, and the polyadenylation signal incorporated into the construct increases the level of expression. These techniques as described are well known to those skilled in the art of molecular biology. Standard methods are published in methods texts such as Davis *et al.*, (*Basic Methods in Molecular Biology*, L.G. Davis, M.D. Dibner, and J.F. Battey, ed., Elsevier Press, NY, 1986) and many of the methods are available from Stratagene, Life Technologies, Inc., or Promega. Polypeptide

may additionally be produced from the construct using *in vitro* translation systems such as the *In vitro* Express™ Translation Kit (Stratagene).

Following expression and purification of the proteins or polypeptides encoded by the nucleic acid inserts, the purified proteins may be tested for the ability to bind to the surface of various cell types as described in Example 21 below. It will be appreciated that a plurality of proteins expressed from these nucleic acid inserts may be included in a panel of proteins to be simultaneously evaluated for the activities specifically described below, as well as other biological roles for which assays for determining activity are available.

EXAMPLE 21

Analysis of Secreted Proteins or Polypeptides to Determine Whether they Bind to the Cell Surface

The EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids, fragments of positional segments of EST-related nucleic acids, nucleic acids encoding the EST-related polypeptides, nucleic acids encoding fragments of the EST-related polypeptides, nucleic acids encoding positional segments of EST-related polypeptides, or nucleic acids encoding fragments of positional segments of EST-related polypeptides are cloned into expression vectors such as those described in Example 20. The encoded proteins or polypeptides are purified, isolated, or enriched as described above. Following purification, isolation, or enrichment, the proteins or polypeptides are labeled using techniques known to those skilled in the art. The labeled proteins or polypeptides are incubated with cells or cell lines derived from a variety of organs or tissues to allow the proteins to bind to any receptor present on the cell surface. Following the incubation, the cells are washed to remove non-specifically bound proteins or polypeptides. The specifically bound labeled proteins or polypeptides are detected by autoradiography. Alternatively, unlabeled proteins or polypeptides may be incubated with the cells and detected with antibodies having a detectable label, such as a fluorescent molecule, attached thereto.

Specificity of cell surface binding may be analyzed by conducting a competition analysis in which various amounts of unlabeled protein or polypeptide are incubated along with the labeled protein or polypeptide. The amount of labeled protein or polypeptide

bound to the cell surface decreases as the amount of competitive unlabeled protein or polypeptide increases. As a control, various amounts of an unlabeled protein or polypeptide unrelated to the labeled protein or polypeptide is included in some binding reactions. The amount of labeled protein or polypeptide bound to the cell surface does not decrease in binding reactions containing increasing amounts of unrelated unlabeled protein, indicating that the protein or polypeptide encoded by the nucleic acid binds specifically to the cell surface.

As discussed above, human proteins have been shown to have a number of important physiological effects and, consequently, represent a valuable therapeutic resource. The human proteins or polypeptides made as described above may be evaluated to determine their physiological activities as described below.

EXAMPLE 22

Assaying the Expressed Proteins or Polypeptides for Cytokine, Cell Proliferation or Cell Differentiation Activity

As discussed above, some human proteins act as cytokines or may affect cellular proliferation or differentiation. Many protein factors discovered to date, including all known cytokines, have exhibited activity in one or more factor dependent cell proliferation assays, and hence the assays serve as a convenient confirmation of cytokine activity. The activity of a protein or polypeptide of the present invention is evidenced by any one of a number of routine factor dependent cell proliferation assays for cell lines including, without limitation, 32D, DA2, DA1G, T10, B9, B9/11, BaF3, MC9/G, M^+ (preB M^+), 2E8, RB5, DA1, 123, T1165, HT2, CTLL2, TF-1, Mo7c and CMK. The proteins or polypeptides prepared as described above may be evaluated for their ability to regulate T cell or thymocyte proliferation in assays such as those described above or in the following references, which are incorporated herein by reference: *Current Protocols in Immunology*, Ed. by J.E. Coligan *et al.*, Greene Publishing Associates and Wiley-Interscience; Takai *et al. J. Immunol.* **137**:3494-3500, 1986., Bertagnolli *et al.* J. Immunol. **145**:1706-1712, 1990., Bertagnolli *et al., Cellular Immunology* **133**:327-341, 1991. Bertagnolli, *et al. J. Immunol.* **149**:3778-3783, 1992; Bowman *et al.,* ***J. Immunol.*** **152**:1756-1761, 1994.

In addition, numerous assays for cytokine production and/or the proliferation of spleen cells, lymph node cells and thymocytes are known. These include the techniques disclosed in **Current Protocols in Immunology**. J.E. Coligan *et al.* Eds., **1**:3.12.1-3.12.14, John Wiley and Sons, Toronto. 1994; and Schreiber, R.D. In *Current Protocols in Immunology., supra* **1** : 6.8.1-6.8.8.

The proteins or polypeptides prepared as described above may also be assayed for the ability to regulate the proliferation and differentiation of hematopoietic or lymphopoietic cells. Many assays for such activity are familiar to those skilled in the art, including the assays in the following references, which are incorporated herein by reference: Bottomly *et al.*, In *Current Protocols in Immunology., supra.* **1** : 6.3.1-6.3.12,; deVries *et al.*, *J. Exp. Med.* **173**:1205-1211, 1991; Moreau *et al.*, *Nature* **36**:690-692, 1988; Greenberger *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* **80**:2931-2938, 1983; Nordan, R., In *Current Protocols in Immunology., supra.* 1 : 6.6.1-6.6.5; Smith et al., *Proc. Natl. Acad. Sci. U.S.A.* **83**:1857-1861, 1986; Bennett *et al* in *Current Protocols in Immunology supra* **1** : 6.15.1; Ciarletta *et al* In *Current Protocols in Immunology. supra* **1** : 6.13.1.

The proteins or polypeptides prepared as described above may also be assayed for their ability to regulate T-cell responses to antigens. Many assays for such activity are familiar to those skilled in the art, including the assays described in the following references, which are incorporated herein by reference: Chapter 3 (*In vitro* Assays for Mouse Lymphocyte Function), Chapter 6 (Cytokines and Their Cellular Receptors) and Chapter 7, (Immunologic Studies in Humans) in *Current Protocols in Immunology supra*; Weinberger *et al.*, *Proc. Natl. Acad. Sci. USA* **77**:6091-6095, 1980; Weinberger *et al.*, *Eur. J. Immun.* **11**:405-411, 1981; Takai *et al.*, *J. Immunol.* **137**:3494-3500, 1986; Takai *et al.*, *J. Immunol.* **140**:508-512, 1988.

Those proteins or polypeptides which exhibit cytokine, cell proliferation, or cell differentiation activity may then be formulated as pharmaceuticals and used to treat clinical conditions in which induction of cell proliferation or differentiation is beneficial. Alternatively, as described in more detail below, nucleic acids encoding these proteins or polypeptides or nucleic acids regulating the expression of these proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 23

Assaying the Expressed Proteins or Polypeptides for Activity as Immune System Regulators

The proteins or polypeptides prepared as described above may also be evaluated for their effects as immune regulators. For example, the proteins or polypeptides may be evaluated for their activity to influence thymocyte or splenocyte cytotoxicity. Numerous assays for such activity are familiar to those skilled in the art including the assays described in the following references, which are incorporated herein by reference: Chapter 3 (*In vitro* Assays for Mouse Lymphocyte Function 3.1-3.19) and Chapter 7 (Immunologic studies in Humans) in *Current Protocols in Immunology* , J.E. Coligan et al. Eds, Greene Publishing Associates and Wiley-Interscience; Herrmann *et al., Proc. Natl. Acad. Sci. USA* **78**:2488-2492, 1981; Herrmann *et al., J. Immunol.* **128**:1968-1974, 1982; Handa *et al., J. Immunol.* **135**:1564-1572, 1985; Takai *et al., J. Immunol.* **137**:3494-3500, 1986; Takai *et al., J. Immunol.* **140**:508-512, 1988; Bowman *et al.*, ***J. Virology*** **61**:1992-1998; Bertagnolli *et al. Cell. Immunol.* **133**:327-341, 1991; Brown *et al., J. Immunol.* **153**:3079-3092, 1994.

The proteins or polypeptides prepared as described above may also be evaluated for their effects on T-cell dependent immunoglobulin responses and isotype switching. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Maliszewski, *J. Immunol.* **144**:3028-3033, 1990; Mond *et al.* in *Current Protocols in Immunology*, **1** : 3.8.1-3.8.16, *supra*.

The proteins or polypeptides prepared as described above may also be evaluated for their effect on immune effector cells, including their effect on Th1 cells and cytotoxic lymphocytes. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Chapter 3 (*In vitro* Assays for Mouse Lymphocyte Function 3.1-3.19) and Chapter 7 (Immunologic Studies in Humans) in *Current Protocols in Immunology, supra*; Takai *et al., J. Immunol.* **137**:3494-3500, 1986; Takai *et al.; J. Immunol.* **140**:508-512, 1988; Bertagnolli *et al., J. Immunol.* **149**:3778-3783, 1992.

The proteins or polypeptides prepared as described above may also be evaluated for their effect on dendritic cell mediated activation of naive T-cells. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Guery *et al.*, *J. Immunol.* **134**:536-544, 1995; Inaba *et al.*, *J. Exp. Med.* **173**:549-559, 1991; Macatonia *et al.*, *J. Immunol.* **154**:5071-5079, 1995; Porgador *et al J. Exp. Med* **182**:255-260, 1995; Nair *et al.*, *J. Virol.* **67**:4062-4069, 1993; Huang *et al.*, *Science* **264**:961-965, 1994; Macatonia *et al J. Exp. Med* **169**:1255-1264, 1989; Bhardwaj *et al.*, *Journal of Clinical Investigation* **94**:797-807, 1994; and Inaba *et al.*, *J. Exp. Med* **172**:631-640, 1990.

The proteins or polypeptides prepared as described above may also be evaluated for their influence on the lifetime of lymphocytes. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Darzynkiewicz *et al.*, *Cytometry* **13**:795-808, 1992; Gorczyca *et al.*, *Leukemia* **7**:659-670, 1993; Gorczyca *et al.*, *Cancer Res.* **53**:1945-1951, 1993; Itoh *et al.*, *Cell* **66**:233-243, 1991; Zacharchuk, *J. Immunol.* **145**:4037-4045, 1990; Zamai *et al.*, *Cytometry* **14**:891-897, 1993; Gorczyca *et al.*, *Int. J. Oncol.* **1**:639-648, 1992.

The proteins or polypeptides prepared as described above may also be evaluated for their influence on early steps of T-cell commitment and development. Numerous assays for such activity are familiar to those skilled in the art, including without limitation the assays disclosed in the following references, which are incorporated herein by references: Antica *et al.*, *Blood* **84**:111-117, 1994; Fine *et al.*, *Cell. Immunol.* **155**:111-122, 1994; Galy *et al.*, *Blood* **85**:2770-2778, 1995; Toki *et al.*, *Proc. Nat. Acad Sci. USA* **88**:7548-7551, 1991.

Those proteins or polypeptides which exhibit activity as immune system regulators activity may then be formulated as pharmaceuticals and used to treat clinical conditions in which regulation of immune activity is beneficial. For example, the protein or polypeptide may be useful in the treatment of various immune deficiencies and disorders (including severe combined immunodeficiency), e.g., in regulating (up or down) growth and proliferation of T and/or B lymphocytes, as well as effecting the cytolytic activity of NK cells and other cell populations. These immune deficiencies may be genetic or be caused

by viral (e.g., HIV) as well as bacterial or fungal infections, or may result from autoimmune disorders. More specifically, infectious diseases caused by viral, bacterial, fungal or other infection may be treatable using the protein or polypeptide including infections by HIV, hepatitis viruses, herpesviruses, mycobacteria, Leishmania spp., plamodium. and various fungal infections such as candidiasis. Of course, in this regard, a protein or polypeptide may also be useful where a boost to the immune system generally may be desirable, i.e., in the treatment of cancer.

Alternatively, the proteins or polypeptides prepared as described above may be used in treatment of autoimmune disorders including, for example, connective tissue disease, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin dependent diabetes mellitis, myasthenia gravis, graft-versus-host disease and autoimmune inflammatory eye disease. Such a protein or polypeptide may also to be useful in the treatment of allergic reactions and conditions, such as asthma (particularly allergic asthma) or other respiratory problems. Other conditions, in which immune suppression is desired (including, for example, organ transplantation), may also be treatable using the protein or polypeptide.

Using the proteins or polypeptides of the invention it may also be possible to regulate immune responses either up or down. Down regulation may involve inhibiting or blocking an immune response already in progress or may involve preventing the induction of an immune response. The functions of activated T-cells may be inhibited by suppressing T cell responses or by inducing specific tolerance in T cells, or both. Immunosuppression of T cell responses is generally an active non-antigen-specific process which requires continuous exposure of the T cells to the suppressive agent. Tolerance, which involves inducing non-responsiveness or anergy in T cells, is distinguishable from immunosuppression in that it is generally antigen-specific and persists after the end of exposure to the tolerizing agent. Operationally, tolerance can be demonstrated by the lack of a T cell response upon reexposure to specific antigen in the absence of the tolerizing agent.

Down regulating or preventing one or more antigen functions (including without limitation B lymphocyte antigen functions, such as, for example, B7 costimulation), e.g.,

preventing high level lymphokine synthesis by activated T cells, will be useful in situations of tissue, skin and organ transplantation and in graft-versus-host disease (GVHD). For example, blockage of T cell function should result in reduced tissue destruction in tissue transplantation. Typically, in tissue transplants, rejection of the transplant is initiated through its recognition as foreign by T cells, followed by an immune reaction that destroys the transplant. The administration of a molecule which inhibits or blocks interaction of a B7 lymphocyte antigen with its natural ligand(s) on immune cells (such as a soluble, monomeric form of a peptide having B7-2 activity alone or in conjunction with a monomeric form of a peptide having an activity of another B lymphocyte antigen (e.g., B7-1, B7-3) or blocking antibody), prior to transplantation, can lead to the binding of the molecule to the natural ligand(s) on the immune cells without transmitting the corresponding costimulatory signal. Blocking B lymphocyte antigen function in this matter prevents cytokine synthesis by immune cells, such as T cells, and thus acts as an immunosuppressant. Moreover, the lack of costimulation may also be sufficient to anergize the T cells, thereby inducing tolerance in a subject. Induction of long-term tolerance by B lymphocyte antigen-blocking reagents may avoid the necessity of repeated administration of these blocking reagents. To achieve sufficient immunosuppression or tolerance in a subject, it may also be necessary to block the function of a combination of B lymphocyte antigens.

The efficacy of particular blocking reagents in preventing organ transplant rejection or GVHD can be assessed using animal models that are predictive of efficacy in humans. Examples of appropriate systems which can be used include allogeneic cardiac grafts in rats and xenogeneic pancreatic islet cell grafts in mice, both of which have been used to examine the immunosuppressive effects of CTLA4Ig fusion proteins *in vivo* as described in Lenschow *et al.*, *Science* **257**:789-792 (1992) and Turka *et al.*, *Proc. Natl. Acad. Sci USA*, **89**:11102-11105 (1992). In addition, murine models of GVHD (see Paul ed., *Fundamental Immunology*, Raven Press, New York, 1989, pp. 846-847) can be used to determine the effect of blocking B lymphocyte antigen function *in vivo* on the development of that disease.

Blocking antigen function may also be therapeutically useful for treating autoimmune diseases. Many autoimmune disorders are the result of inappropriate

activation of T cells that are reactive against self tissue and which promote the production of cytokines and autoantibodies involved in the pathology of the diseases. Preventing the activation of autoreactive T cells may reduce or eliminate disease symptoms. Administration of reagents which block costimulation of T cells by disrupting receptor/ligand interactions of B lymphocyte antigens can be used to inhibit T cell activation and prevent production of autoantibodies or T cell-derived cytokines which potentially involved in the disease process. Additionally, blocking reagents may induce antigen-specific tolerance of autoreactive T cells which could lead to long-term relief from the disease. The efficacy of blocking reagents in preventing or alleviating autoimmune disorders can be determined using a number of well-characterized animal models of human autoimmune diseases. Examples include murine experimental autoimmune encephalitis, systemic lupus erythmatosis in MRL/pr/pr mice or NZB hybrid mice, murine autoimmuno collagen arthritis, diabetes mellitus in OD mice and BB rats, and murine experimental myasthenia gravis (see Paul ed., Fundamental Immunology, Raven Press, New York, 1989, pp. 840-856).

Upregulation of an antigen function (preferably a B lymphocyte antigen function), as a means of up regulating immune responses, may also be useful in therapy. Upregulation of immune responses may involve either enhancing an existing immune response or eliciting an initial immune response as shown by the following examples. For instance, enhancing an immune response through stimulating B lymphocyte antigen function may be useful in cases of viral infection. In addition, systemic viral diseases such as influenza, the common cold, and encephalitis might be alleviated by the administration of stimulatory form of B lymphocyte antigens systemically.

Alternatively, antiviral immune responses may be enhanced in an infected patient by removing T cells from the patient, costimulating the T cells *in vitro* with viral antigen-pulsed APCs either expressing the proteins or polypeptides described above or together with a stimulatory form of the protein or polypeptide and reintroducing the *in vitro* primed T cells into the patient. The infected cells would now be capable of delivering a costimulatory signal to T cells *in vivo*, thereby activating the T cells.

In another application, upregulation or enhancement of antigen function (preferably B lymphocyte antigen function) may be useful in the induction of tumor

immunity. Tumor cells (e.g., sarcoma, melanoma, lymphoma, leukemia, neuroblastoma, carcinoma) transfected with one of the above-described nucleic acids encoding a protein or polypeptide can be administered to a subject to overcome tumor-specific tolerance in the subject. If desired, the tumor cell can be transfected to express a combination of peptides. For example, tumor cells obtained from a patient can be transfected ex vivo with an expression vector directing the expression of a peptide having B7-2-like activity alone, or in conjunction with a peptide having B7-1-like activity and/or B7-3-like activity. The transfected tumor cells are returned to the patient to result in expression of the peptides on the surface of the transfected cell. Alternatively, gene therapy techniques can be used to target a tumor cell for transfection *in vivo*.

The presence of the protein or polypeptide encoded by the nucleic acids described above having the activity of a B lymphocyte antigen(s) on the surface of the tumor cell provides the necessary costimulation signal to T cells to induce a T cell mediated immune response against the transfected tumor cells. In addition, tumor cells which lack or which fail to reexpress sufficient amounts of MHC class I or MHC class II molecules can be transfected with nucleic acids encoding all or a portion of (e.g., a cytoplasmic-domain truncated portion) of an MHC class I α chain and β_2 microglobulin or an MHC class II α chain and an MHC class II β chain to thereby express MHC class I or MHC class II proteins on the cell surface, respectively. Expression of the appropriate MHC class I or class II molecules in conjunction with a peptide having the activity of a B lymphocyte antigen (e.g., B7-1, B7-2, B7-3) induces a T cell mediated immune response against the transfected tumor cell. Optionally, a nucleic acid encoding an antisense construct which blocks expression of an MHC class II associated protein, such as the invariant chain, can also be cotransfected with a DNA encoding a protein or polypeptide having the activity of a B lymphocyte antigen to promote presentation of tumor associated antigens and induce tumor specific immunity. Thus, the induction of a T cell mediated immune response in a human subject may be sufficient to overcome tumor-specific tolerance in the subject. Alternatively, as described in more detail below, nucleic acids encoding these immune system regulator proteins or polypeptides or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins as desired.

EXAMPLE 24

Assaying the Expressed Proteins or Polypeptides for Hematopoiesis Regulating Activity

The proteins or polypeptides encoded by the nucleic acids described above may also be evaluated for their hematopoiesis regulating activity. For example, the effect of the proteins or polypeptides on embryonic stem cell differentiation may be evaluated. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Johansson *et al. Cell. Biol.* **15**:141-151, 1995; Keller *et al., Mol. Cell. Biol.* **13**:473-486, 1993; McClanahan *et al., Blood* **81**:2903-2915, 1993.

The proteins or polypeptides encoded by the nucleic acids described above may also be evaluated for their influence on the lifetime of stem cells and stem cell differentiation. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Freshney, M.G. Methylcellulose Colony Forming Assays, in Culture of Hematopoietic Cells. R.I. Freshney, et al. Eds. pp. 265-268, Wiley-Liss, Inc., New York, NY. 1994; Hirayama et al., *Proc. Natl. Acad. Sci. USA* 89:5907-5911, 1992; McNiece, I.K. and Briddell, R.A. Primitive Hematopoietic Colony Forming Cells with High Proliferative Potential, in Culture of Hematopoietic Cells. R.I. Freshney, et al. eds. Vol pp. 23-39, Wiley-Liss, Inc., New York, NY. 1994; Neben et al., *Experimental Hematology* 22:353-359, 1994; Ploemacher, R.E. Cobblestone Area Forming Cell Assay, In Culture of Hematopoietic Cells. R.I. Freshney, et al. Eds. pp. 1-21, Wiley-Liss, Inc., New York, NY. 1994; Spooncer, E., Dexter, M. and Allen, T. Long Term Bone Marrow Cultures in the Presence of Stromal Cells, in Culture of Hematopoietic Cells. R.I. Freshney, et al. Eds. pp. 163-179, Wiley-Liss, Inc., New York, NY. 1994; and Sutherland, H.J. Long Term Culture Initiating Cell Assay, in Culture of Hematopoietic Cells. R.I. Freshney, et al. Eds. pp. 139-162, Wiley-Liss, Inc., New York, NY. 1994.

Those proteins or polypeptides which exhibit hematopoiesis regulatory activity may then be formulated as pharmaceuticals and used to treat clinical conditions in which regulation of hematopoeisis is beneficial. For example, a protein or polypeptide of the present invention may be useful in regulation of hematopoiesis and, consequently, in the

treatment of myeloid or lymphoid cell deficiencies. Even marginal biological activity in support of colony forming cells or of factor-dependent cell lines indicates involvement in regulating hematopoiesis, e.g. in supporting the growth and proliferation of erythroid progenitor cells alone or in combination with other cytokines, thereby indicating utility, for example, in treating various anemias or for use in conjunction with irradiation/chemotherapy to stimulate the production of erythroid precursors and/or erythroid cells; in supporting the growth and proliferation of myeloid cells such as granulocytes and monocytes/macrophages (i.e., traditional CSF activity) useful, for example, in conjunction with chemotherapy to prevent or treat consequent myelo-suppression; in supporting the growth and proliferation of megakaryocytes and consequently of platelets thereby allowing prevention or treatment of various platelet disorders such as thrombocytopenia, and generally for use in place of or complimentary to platelet transfusions; and/or in supporting the growth and proliferation of hematopoietic stem cells which are capable of maturing to any and all of the above-mentioned hematopoietic cells and therefore find therapeutic utility in various stem cell disorders (such as those usually treated with transplantion, including, without limitation, aplastic anemia and paroxysmal nocturnal hemoglobinuria), as well as in repopulating the stem cell compartment post irradiation/chemotherapy, either in-vivo or ex-vivo (i.e., in conjunction with bone marrow transplantation or with peripheral progenitor cell transplantation (homologous or heterologous)) as normal cells or genetically manipulated for gene therapy. Alternatively, as described in more detail below, nucleic acids encoding these proteins or polypeptides or nucleic acids regulating the expression of these proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins as desired.

EXAMPLE 25

Assaying the Expressed Proteins or Polypeptides for Regulation of Tissue Growth

The proteins or polypeptides encoded by the nucleic acids described above may also be evaluated for their effect on tissue growth. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in International Patent Publication No. WO95/16035, International Patent Publication No. WO95/05846 and

International Patent Publication No. WO91/07491, which are incorporated herein by reference.

Assays for wound healing activity include, without limitation, those described in: Winter, *Epidermal Wound Healing*, pps. 71-112 (Maibach, H1 and Rovee, DT, eds.), Year Book Medical Publishers, Inc., Chicago, as modified by Eaglstein and Mertz, J. Invest. Dermatol 71:382-84 (1978) which are incorporated herein by reference.

Those proteins or polypeptides which are involved in the regulation of tissue growth may then be formulated as pharmaceuticals and used to treat clinical conditions in which regulation of tissue growth is beneficial. For example, a protein or polypeptide may have utility in compositions used for bone, cartilage, tendon, ligament and/or nerve tissue growth or regeneration, as well as for wound healing and tissue repair and replacement, and in the treatment of burns, incisions and ulcers.

A protein or polypeptide encoded by the nucleic acids described above which induces cartilage and/or bone growth in circumstances where bone is not normally formed, has application in the healing of bone fractures and cartilage damage or defects in humans and other animals. Such a preparation employing a protein or polypeptide of the invention may have prophylactic use in closed as well as open fracture reduction and also in the improved fixation of artificial joints. *De novo* bone synthesis induced by an osteogenic agent contributes to the repair of congenital, trauma induced, or oncologic resection induced craniofacial defects, and also is useful in cosmetic plastic surgery.

A protein or polypeptide of this invention may also be used in the treatment of periodontal disease, and in other tooth repair processes. Such agents may provide an environment to attract bone-forming cells, stimulate growth of bone-forming cells or induce differentiation of progenitors of bone-forming cells. A protein of the invention may also be useful in the treatment of osteoporosis or osteoarthritis, such as through stimulation of bone and/or cartilage repair or by blocking inflammation or processes of tissue destruction (collagenase activity, osteoclast activity, etc.) mediated by inflammatory processes.

Another category of tissue regeneration activity that may be attributable to the proteins or polypeptides encoded by the nucleic acids described above is tendon/ligament formation. A protein or polypeptide encoded by the nucleic acids described above, which

induces tendon/ligament-like tissue or other tissue formation in circumstances where such tissue is not normally formed, has application in the healing of tendon or ligament tears, deformities and other tendon or ligament defects in humans and other animals. Such a preparation employing a tendon/ligament-like tissue inducing protein may have prophylactic use in preventing damage to tendon or ligament tissue, as well as use in the improved fixation of tendon or ligament to bone or other tissues, and in repairing defects to tendon or ligament tissue. De novo tendon/ligament-like tissue formation induced by a protein or polypeptide of the present invention contributes to the repair of tendon or ligaments defects of congenital, traumatic or other origin and is also useful in cosmetic plastic surgery for attachment or repair of tendons or ligaments. The proteins or polypeptides of the present invention may provide an environment to attract tendon- or ligament-forming cells, stimulate growth of tendon- or ligament-forming cells, induce differentiation of progenitors of tendon- or ligament-forming cells, or induce growth of tendon/ligament cells or progenitors ex vivo for return *in vivo* to effect tissue repair. The proteins or polypeptides of the invention may also be useful in the treatment of tendinitis, carpal tunnel syndrome and other tendon or ligament defects. The therapeutic compositions may also include an appropriate matrix and/or sequestering agent as a carrier as is well known in the art.

The proteins or polypeptides of the present invention may also be useful for proliferation of neural cells and for regeneration of nerve and brain tissue, i.e., for the treatment of central and peripheral nervous system diseases and neuropathies, as well as mechanical and traumatic disorders, which involve degeneration, death or trauma to neural cells or nerve tissue. More specifically, a protein or polypeptide may be used in the treatment of diseases of the peripheral nervous system, such as peripheral nerve injuries, peripheral neuropathy and localized neuropathies, and central nervous system diseases, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, and Shy-Drager syndrome. Further conditions which may be treated in accordance with the present invention include mechanical and traumatic disorders, such as spinal cord disorders, head trauma and cerebrovascular diseases such as stroke. Peripheral neuropathies resulting from chemotherapy or other medical therapies may also be treatable using a protein or polypeptide of the invention.

Proteins or polypeptides of the invention may also be useful to promote better or faster closure of non-healing wounds, including without limitation pressure ulcers, ulcers associated with vascular insufficiency, surgical and traumatic wounds, and the like.

It is expected that a protein or polypeptide of the present invention may also exhibit activity for generation or regeneration of other tissues, such as organs (including, for example, pancreas, liver, intestine, kidney, skin, endothelium) muscle. (smooth, skeletal or cardiac) and vascular (including vascular endothelium) tissue, or for promoting the growth of cells comprising such tissues. Part of the desired effects may be by inhibition or modulation of fibrotic scarring to allow normal tissue to generate. A protein or polypeptide of the invention may also exhibit angiogenic activity.

A protein or polypeptide of the present invention may also be useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues, and conditions resulting from systemic cytokine damage.

A protein or polypeptide of the present invention may also be useful for promoting or inhibiting differentiation of tissues described above from precursor tissues or cells; or for inhibiting the growth of tissues described above.

Alternatively, as described in more detail below, nucleic acids encoding tissue growth regulating activity proteins or polypeptides or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins as desired.

EXAMPLE 26

Assaying the Expressed Proteins or Polypeptides for Regulation of Reproductive Hormones

The proteins or polypeptides of the present invention may also be evaluated for their ability to regulate reproductive hormones, such as follicle stimulating hormone. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Vale *et al.*, *Endocrinol.* **91**:562-572, 1972; Ling *et al.*, *Nature* **321**:779-782, 1986; Vale *et al.*, *Nature* **321**:776-779, 1986; Mason *et al.*, *Nature* **318**:659-663, 1985; Forage *et al.*, *Proc. Natl. Acad. Sci. USA* **83**:3091-3095, 1986. Chapter 6.12 in *Current Protocols in*

Immunology, J.E. Coligan *et al.* Eds. Greene Publishing Associates and Wiley-Intersciece ; Taub *et al. J. Clin. Invest.* **95**:1370-1376, 1995; Lind *et al. APMIS* **103**:140-146, 1995; Muller *et al. Eur. J. Immunol.* **25**:1744-1748; Gruber *et al. J. Immunol.* **152**:5860-5867, 1994; Johnston *et al., J Immunol.* **153**:1762-1768, 1994.

Those proteins or polypeptides which exhibit activity as reproductive hormones or regulators of cell movement may then be formulated as pharmaceuticals and used to treat clinical conditions in which regulation of reproductive hormones are beneficial. For example, a protein or polypeptide may exhibit activin- or inhibin-related activities. Inhibins are characterized by their ability to inhibit the release of follicle stimulating hormone (FSH), while activins are characterized by their ability to stimulate the release of FSH. Thus, a protein or polypeptide of the present invention, alone or in heterodimers with a member of the inhibin α family, may be useful as a contraceptive based on the ability of inhibins to decrease fertility in female mammals and decrease spermatogenesis in male mammals. Administration of sufficient amounts of other inhibins can induce infertility in these mammals. Alternatively, the protein or polypeptide of the invention, as a homodimer or as a heterodimer with other protein subunits of the inhibin-B group, may be useful as a fertility inducing therapeutic, based upon the ability of activin molecules in stimulating FSH release from cells of the anterior pituitary. See, for example, United States Patent 4,798,885, the disclosure of which is incorporated herein by reference. A protein or polypeptide of the invention may also be useful for advancement of the onset of fertility in sexually immature mammals, so as to increase the lifetime reproductive performance of domestic animals such as cows, sheep and pigs.

Alternatively, as described in more detail below, nucleic acids encoding reproductive hormone regulating activity proteins or polypeptides or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 27

Assaying the Expressed Proteins or Polypeptides For Chemotactic/Chemokinetic Activity

The proteins or polypeptides of the present invention may also be evaluated for chemotactic/chemokinetic activity. For example, a protein or polypeptide of the present invention may have chemotactic or chemokinetic activity (e.g., act as a chemokine) for mammalian cells, including, for example, monocytes, fibroblasts, neutrophils, T-cells, mast cells, eosinophils, epithelial and/or endothelial cells. Chemotactic and chemokinetic proteins or polypeptides can be used to mobilize or attract a desired cell population to a desired site of action. Chemotactic or chemokinetic proteins or polypeptides provide particular advantages in treatment of wounds and other trauma to tissues, as well as in treatment of localized infections. For example, attraction of lymphocytes, monocytes or neutrophils to tumors or sites of infection may result in improved immune responses against the tumor or infecting agent.

A protein or polypeptide has chemotactic activity for a particular cell population if it can stimulate, directly or indirectly, the directed orientation or movement of such cell population. Preferably, the protein or polypeptide has the ability to directly stimulate directed movement of cells. Whether a particular protein or polypeptide has chemotactic activity for a population of cells can be readily determined by employing such protein or polypeptide in any known assay for cell chemotaxis.

The activity of a protein or polypeptide of the invention may, among other means, be measured by the following methods:

Assays for chemotactic activity (which will identify proteins or polypeptides that induce or prevent chemotaxis) consist of assays that measure the ability of a protein or polypeptide to induce the migration of cells across a membrane as well as the ability of a protein or polypeptide to induce the adhesion of one cell population to another cell population. Suitable assays for movement and adhesion include, without limitation, those described in: *Current Protocols in Immunology*, Ed by J.E. Coligan, A.M. Kruisbeek, D.H. Margulies, E.M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience,Chapter **6.12**: 6.12.1-6.12.28; Taub *et al. J. Clin. Invest.* **95**:1370-1376, 1995; Lind *et al. APMIS* **103**:140-146, 1995; Mueller *et al., Eur. J. Immunol.* **25**:1744-

1748; Gruber *et al. J. Immunol.* **152**:5860-5867, 1994; Johnston *et al. J. Immunol.*, **153**:1762-1768, 1994.

EXAMPLE 28

Assaying the Expressed Proteins or Polypeptides for Regulation of Blood Clotting

The proteins or polypeptides of the present invention may also be evaluated for their effects on blood clotting. Numerous assays for such activity are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Linet *et al., J. Clin. Pharmacol.* **26**:131-140, 1986; Burdick *et al., Thrombosis Res.* **45**:413-419, 1987; Humphrey *et al., Fibrinolysis* **5**:71-79 (1991); Schaub, *Prostaglandins* **35**:467-474, 1988.

Those proteins or polypeptides which are involved in the regulation of blood clotting may then be formulated as pharmaceuticals and used to treat clinical conditions in which regulation of blood clotting is beneficial. For example, a protein or polypeptide of the invention may also exhibit hemostatic or thrombolytic activity. As a result, such a protein or polypeptide is expected to be useful in treatment of various coagulations disorders (including hereditary disorders, such as hemophilias) or to enhance coagulation and other hemostatic events in treating wounds resulting from trauma, surgery or other causes. A protein or polypeptide of the invention may also be useful for dissolving or inhibiting formation of thromboses and for treatment and prevention of conditions resulting therefrom (such as infarction of cardiac and central nervous system vessels (e.g., stroke)). Alternatively, as described in more detail below, nucleic acids encoding blood clotting activity proteins or polypeptides or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 29

Assaying the Expressed Proteins or Polypeptides for Involvement in Receptor/Ligand Interactions

The proteins or polypeptides of the present invention may also be evaluated for their involvement in receptor/ligand interactions. Numerous assays for such involvement

are familiar to those skilled in the art, including the assays disclosed in the following references, which are incorporated herein by reference: Chapter **7**. 7.28.1-7.28.22) in *Current Protocols in Immunology*, J.E. Coligan *et al.* Eds. Greene Publishing Associates and Wiley-Interscience; Takai *et al., Proc. Natl. Acad. Sci. USA* **84**:6864-6868, 1987; Bierer *et al., J. Exp. Med.* **168**:1145-1156, 1988; Rosenstein *et al., J. Exp. Med.* **169**:149-160, 1989; Stoltenborg *et al., J. Immunol. Methods* **175**:59-68, 1994; Stitt *et al., Cell* **80**:661-670, 1995; Gyuris *et al., Cell* **75**:791-803, 1993.

For example, the proteins or polypeptides of the present invention may also demonstrate activity as receptors, receptor ligands or inhibitors or agonists of receptor/ligand interactions. Examples of such receptors and ligands include, without limitation, cytokine receptors and their ligands, receptor kinases and their ligands, receptor phosphatases and their ligands, receptors involved in cell-cell interactions and their ligands (including without limitation, cellular adhesion molecules (such as selectins, integrins and their ligands) and receptor/ligand pairs involved in antigen presentation, antigen recognition and development of cellular and humoral immune responses). Receptors and ligands are also useful for screening of potential peptide or small molecule inhibitors of the relevant receptor/ligand interaction. A protein or polypeptide of the present invention (including, without limitation, fragments of receptors and ligands) may be useful as inhibitors of receptor/ligand interactions. Alternatively, as described in more detail below, nucleic acids encoding proteins or polypeptides involved in receptor/ligand interactions or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 30

Assaying the Proteins or Polypeptides for Anti-Inflammatory Activity

The proteins or polypeptides of the present invention may also be evaluated for anti-inflammatory activity. The anti-inflammatory activity may be achieved by providing a stimulus to cells involved in the inflammatory response, by inhibiting or promoting cell-cell interactions (such as, for example, cell adhesion), by inhibiting or promoting chemotaxis of cells involved in the inflammatory process, inhibiting or

promoting cell extravasation, or by stimulating or suppressing production of other factors which more directly inhibit or promote an inflammatory response. Proteins or polypeptides exhibiting such activities can be used to treat inflammatory conditions including chronic or acute conditions, including without limitation inflammation associated with infection (such as septic shock, sepsis or systemic inflammatory response syndrome), ischemia-reperfusioninury, endotoxin lethality, arthritis, complement-mediated hyperacute rejection, nephritis, cytokine- or chemokine-induced lung injury, inflammatory bowel disease, Crohn's disease or resulting from over production of cytokines such as TNF or IL-1. Proteins or polypeptides of the invention may also be useful to treat anaphylaxis and hypersensitivity to an antigenic substance or material. Alternatively, as described in more detail below, nucleic acids encoding anti-inflammatory activity proteins or polypeptides or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 31

Assaying the Expressed Proteins or Polypeptides for Tumor Inhibition Activity

The proteins or polypeptides of the present invention may also be evaluated for tumor inhibition activity. In addition to the activities described above for immunological treatment or prevention of tumors, a protein or polypeptide of the invention may exhibit other anti-tumor activities. A protein or polypeptide may inhibit tumor growth directly or indirectly (such as, for example, via ADCC). A protein or polypeptide may exhibit its tumor inhibitory activity by acting on tumor tissue or tumor precursor tissue, by inhibiting formation of tissues necessary to support tumor growth (such as, for example, by inhibiting angiogenesis), by causing production of other factors, agents or cell types which inhibit tumor growth, or by suppressing, eliminating or inhibiting factors, agents or cell types which promote tumor growth. . Alternatively, as described in more detail below, nucleic acids encoding proteins or polypeptides with tumor inhibition activity or nucleic acids regulating the expression of such proteins or polypeptides may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

A protein or polypeptide of the invention may also exhibit one or more of the following additional activities or effects: inhibiting the growth, infection or function of, or killing, infectious agents, including, without limitation, bacteria, viruses, fungi and other parasites; effecting (suppressing or enhancing) bodily characteristics, including, without limitation, height, weight, hair color, eye color, skin, fat to lean ratio or other tissue pigmentation, or organ or body part size or shape (such as, for example, breast augmentation or diminution, change in bone form or shape); effecting biorhythms or circadian cycles or rhythms; effecting the fertility of male or female subjects; effecting the metabolism, catabolism, anabolism, processing, utilization, storage or climination of dietary fat, lipid, protein, carbohydrate, vitamins, minerals, cofactors or other nutritional factors or component(s); effecting behavioral characteristics, including, without limitation, appetite, libido, stress, cognition (including cognitive disorders), depression (including depressive disorders) and violent behaviors; providing analgesic effects or other pain reducing effects; promoting differentiation and growth of embryonic stem cells in lineages other than hematopoietic lineages; hormonal or endocrine activity; in the case of enzymes, correcting deficiencies of the enzyme and treating deficiency-related diseases; treatment of hyperproliferative disorders (such as, for example, psoriasis); immunoglobulin-like activity (such as, for example, the ability to bind antigens or complement); and the ability to act as an antigen in a vaccine composition to raise an immune response against such protein or another material or entity which is cross-reactive with such protein. Alternatively, as described in more detail below, nucleic acids encoding proteins or polypeptides involved in any of the above mentioned activities or nucleic acids regulating the expression of such proteins may be introduced into appropriate host cells to increase or decrease the expression of the proteins or polypeptides as desired.

EXAMPLE 32

Identification of Proteins or Polypeptides which Interact with Proteins or Polypeptides of the Present Invention

Proteins or polypeptides which interact with the proteins or polypeptides of the present invention, such as receptor proteins, may be identified using two hybrid systems such as the Matchmaker Two Hybrid System 2 (Catalog No. K1604-1, Clontech). As

described in the manual accompanying the kit which is incorporated herein by reference, nucleic acids encoding the proteins or polypeptides of the present invention, are inserted into an expression vector such that they are in frame with DNA encoding the DNA binding domain of the yeast transcriptional activator GAL4. cDNAs in a cDNA library which encode proteins or polypeptides which might interact with the proteins or polypeptides of the present invention are inserted into a second expression vector such that they are in frame with DNA encoding the activation domain of GAL4. The two expression plasmids are transformed into yeast and the yeast are plated on selection medium which selects for expression of selectable markers on each of the expression vectors as well as GAL4 dependent expression of the HIS3 gene. Transformants capable of growing on medium lacking histidine are screened for GAL4 dependent lacZ expression. Those cells which are positive in both the histidine selection and the lacZ assay contain plasmids encoding proteins or polypeptides which interact with the proteins or polypeptides of the present invention.

Alternatively, the system described in Lustig *et al.*, *Methods in Enzymology* **283**: 83-99 (1997), the disclosure of which is incorporated herein by reference, may be used for identifying molecules which interact with the proteins or polypeptides of the present invention. In such systems, *in vitro* transcription reactions are performed on a pool of vectors containing nucleic acid inserts which encode the proteins or polypeptides of the present invention. The nucleic acid inserts are cloned downstream of a promoter which drives *in vitro* transcription. The resulting pools of mRNAs are introduced into *Xenopus laevis* oocytes. The oocytes are then assayed for a desired activity.

Alternatively, the pooled *in vitro* transcription products produced as described above may be translated *in vitro*. The pooled *in vitro* translation products can be assayed for a desired activity or for interaction with a known protein or polypeptide.

Proteins, polypeptides or other molecules interacting with proteins or polypeptides of the present invention can be found by a variety of additional techniques. In one method, affinity columns containing the protein or polypeptide of the present invention can be constructed. In some versions, of this method the affinity column contains chimeric proteins in which the protein or polypeptide of the present invention is fused to glutathione S-transferase. A mixture of cellular proteins or pool of expressed

proteins as described above and is applied to the affinity column. Molecules interacting with the protein or polypeptide attached to the column can then be isolated and analyzed on 2-D electrophoresis gel as described in Ramunsen *et al. Electrophoresis*, **18**, 588-598 (1997), the disclosure of which is incorporated herein by reference. Alternatively, the molecules retained on the affinity column can be purified by electrophoresis based methods and sequenced. The same method can be used to isolate antibodies, to screen phage display products, or to screen phage display human antibodies.

Molecules interacting with the proteins or polypeptides of the present invention can also be screened by using an Optical Biosensor as described in Edwards & Leatherbarrow, *Analytical Biochemistry*, **246**, 1-6 (1997), the disclosure of which is incorporated herein by reference. The main advantage of the method is that it allows the determination of the association rate between the protein or polypeptide and other interacting molecules. Thus, it is possible to specifically select interacting molecules with a high or low association rate. Typically a target molecule is linked to the sensor surface (through a carboxymethl dextran matrix) and a sample of test molecules is placed in contact with the target molecules. The binding of a test molecule to the target molecule causes a change in the refractive index and/ or thickness. This change is detected by the Biosensor provided it occurs in the evanescent field (which extend a few hundred nanometers from the sensor surface). In these screening assays, the target molecule can be one of the proteins or polypeptides of the present invention and the test sample can be a collection of proteins, polypeptides or other molecules extracted from tissues or cells, a pool of expressed proteins, combinatorial peptide and/ or chemical libraries, or phage displayed peptides. The tissues or cells from which the test molecules are extracted can originate from any species.

In other methods, a target protein or polypeptide is immobilized and the test population is a collection of unique proteins or polypeptides of the present invention.

To study the interaction of the proteins or polypeptides of the present invention with drugs, the microdialysis coupled to HPLC method described by Wang *et al.*, *Chromatographia*, **44**, 205-208(1997) or the affinity capillary electrophoresis method described by Busch *et al.*, *J. Chromatogr.* **777**:311-328 (1997), the disclosures of which are incorporated herein by reference can be used.

The system described in U.S. Patent No. 5,654,150, the disclosure of which is incorporated herein by reference, may also be used to identify molecules which interact with the proteins or polypeptides of the present invention. In this system, pools of nucleic acids encoding the proteins or polypeptides of the present invention are transcribed and translated *in vitro* and the reaction products are assayed for interaction with a known polypeptide or antibody.

It will be appreciated by those skilled in the art that the proteins or polypeptides of the present invention may be assayed for numerous activities in addition to those specifically enumerated above. For example, the expressed proteins or polypeptides may be evaluated for applications involving control and regulation of inflammation, tumor proliferation or metastasis, infection, or other clinical conditions. In addition, the proteins or polypeptides may be useful as nutritional agents or cosmetic agents.

Epitopes and Antibody Fusions

A preferred embodiment of the present invention is directed to eiptope-bearing polypeptides and epitope-bearing polypeptide fragments. These epitopes may be "antigenic epitopes" or both an "antigenic epitope" and an "immunogenic epitope". An "immunogenic epitope" is defined as a part of a protein that elicits an antibody response in vivo when the polypeptide is the immunogen. On the other hand, a region of polypeptide to which an antibody binds is defined as an "antigenic determinant" or "antigenic epitope." The number of immunogenic epitopes of a protein generally is less than the number of antigenic epitopes. *See, e.g.,* Geysen, et al. (1983) Proc. Natl. Acad. Sci. USA 81:39984002. It is particularly noted that although a particular epitope may not be immunogenic, it is nonetheless useful since antibodies can be made in vitro to any epitope.

An epitope can comprise as few as 3 amino acids in a spatial conformation which is unique to the epitope. Generally an epitope consists of at least 6 such amino acids, and more often at least 8-10 such amino acids. In preferred embodiment, antigenic epitopes comprise a number of amino acids that is any integer between 3 and 50. Fragments which function as epitopes may be produced by any conventional means. *See, e.g.,* Houghten, R. A., Proc. Natl. Acad. Sci. USA 82:5131-5135 (1985), further described in U.S. Patent No. 4,631,211, the disclosures of which are incorporated herein

by reference in their entireties. Methods for determining the amino acids which make up an immunogenic epitope include x-ray crystallography, 2-dimensional nuclear magnetic resonance, and epitope mapping, e.g., the Pepscan method described by H. Mario Geysen et al. (1984);.. Proc. Natl. Acad. Sci. U.S.A. 81:3998-4002; PCT Publication No. WO 84/03564; and PCT Publication No. WO 84/03506, the disclosures of which are incorporated herein by reference in their entireties. Another example is the algorithm of Jameson and Wolf, Comp. Appl. Biosci. 4:181-186 (1988) (said references incorporated by reference in their entireties). The Jameson-Wolf antigenic analysis, for example, may be performed using the computer program PROTEAN, using default parameters (Version 4.0 Windows, DNASTAR, Inc., 1228 South Park Street Madison, WI.

The epitope-bearing fragments of the present invention preferably comprises 6 to 50 amino acids (i.e. any integer between 6 and 50, inclusive) of a polypeptide of the present invention. Also, included in the present invention are antigenic fragments between the integers of 6 and the full length sequence of the sequence listing. All combinations of sequences between the integers of 6 and the full-length sequence of a polypeptide of the present invention are included. The epitope-bearing fragments may be specified by either the number of contiguous amino acid residues (as a sub-genus) or by specific N-terminal and C-terminal positions (as species) as described above for the polypeptide fragments of the present invention. Any number of epitope-bearing fragments of the present invention may also be excluded in the same manner.

Antigenic epitopes are useful, for example, to raise antibodies, including monoclonal antibodies that specifically bind the epitope (See,Wilson et al., 1984; and Sutcliffe, J. G. et al., 1983). The antibodies are then used in various techniques such as diagnostic and tissue/cell identification techniques, as described herein, and in purification methods.

Similarly, immunogenic epitopes can be used to induce antibodies according to methods well known in the art (See, Sutcliffe et al., supra; Wilson et al., supra; Chow, M. et al.;(1985) and Bittle, F. J. et al., (1985). A preferred immunogenic epitope includes the polypeptides of the sequence listing. The immunogenic epitopes may be presented together with a carrier protein, such as an albumin, to an animal system (such

as rabbit or mouse) or, if it is long enough (at least about 25 amino acids), without a carrier. However, immunogenic epitopes comprising as few as 8 to 10 amino acids have been shown to be sufficient to raise antibodies capable of binding to, at the very least, linear epitopes in a denatured polypeptide (e.g., in Western blotting.).

Epitope-bearing polypeptides of the present invention are used to induce antibodies according to methods well known in the art including, but not limited to, *in vivo* immunization, *in vitro* immunization, and phage display methods (*See, e.g.,* Sutcliffe, et al., *supra*; Wilson, et al., *supra*, and Bittle, et al., 1985). If *in vivo* immunization is used, animals may be immunized with free peptide; however, anti-peptide antibody titer may be boosted by coupling of the peptide to a macromolecular carrier, such as keyhole limpet hemacyanin (KLH) or tetanus toxoid. For instance, peptides containing cysteine residues may be coupled to a carrier using a linker such as -maleimidobenzoyl-N-hydroxysuccinimide ester (MBS), while other peptides may be coupled to carriers using a more general linking agent such as glutaraldehyde. Animals such as rabbits, rats and mice are immunized with either free or carrier-coupled peptides, for instance, by intraperitoneal and/or intradermal injection of emulsions containing about 100 μgs of peptide or carrier protein and Freund's adjuvant. Several booster injections may be needed, for instance, at intervals of about two weeks, to provide a useful titer of anti-peptide antibody, which can be detected, for example, by ELISA assay using free peptide adsorbed to a solid surface. The titer of anti-peptide antibodies in serum from an immunized animal may be increased by selection of anti-peptide antibodies, for instance, by adsorption to the peptide on a solid support and elution of the selected antibodies according to methods well known in the art.

As one of skill in the art will appreciate, and discussed above, the polypeptides of the present invention comprising an immunogenic or antigenic epitope can be fused to heterologous polypeptide sequences. For example, the polypeptides of the present invention may be fused with the constant domain of immunoglobulins (IgA, IgE, IgG, IgM), or portions thereof (CH1, CH2, CH3, any combination thereof including both entire domains and portions thereof) resulting in chimeric polypeptides. These fusion proteins facilitate purification, and show an increased half-life *in vivo.* This has been shown, *e.g.*, for chimeric proteins consisting of the first two domains of the human

CD4-polypeptide and various domains of the constant regions of the heavy or light chains of mammalian immunoglobulins (*See, e.g.,* EPA 0,394,827; and Traunecker et al., 1988). Fusion proteins that have a disulfide-linked dimeric structure due to the IgG portion can also be more efficient in binding and neutralizing other molecules than monomeric polypeptides or fragments thereof alone (*See, e.g.,* Fountoulakis et al., 1995). Nucleic acids encoding the above epitopes can also be recombined with a gene of interest as an epitope tag to aid in detection and purification of the expressed polypeptide.

Additonal fusion proteins of the invention may be generated through the techniques of gene-shuffling, motif-shuffling, exon-shuffling, or codon-shuffling (collectively referred to as "DNA shuffling"). DNA shuffling may be employed to modulate the activities of polypeptides of the present invention thereby effectively generating agonists and antagonists of the polypeptides. See, for example, U.S. Patent Nos.: 5,605,793; 5,811,238; 5,834,252; 5,837,458; and Patten, P.A., et al., (1997); Harayama, S., (1998); Hansson, L.O., et al (1999); and Lorenzo, M.M. and Blasco, R., (1998). (Each of these documents are hereby incorporated by reference). In one embodiment, one or more components, motifs, sections, parts, domains, fragments, etc., of coding polynucleotides of the invention, or the polypeptides encoded thereby may be recombined with one or more components, motifs, sections, parts, domains, fragments, etc. of one or more heterologous molecules.

Antibodies

The present invention further relates to antibodies and T-cell antigen receptors (TCR) which specifically bind the polypeptides of the present invention. The antibodies of the present invention include IgG (including IgG1, IgG2, IgG3, and IgG4), IgA (including IgA1 and IgA2), IgD, IgE, or IgM, and IgY. As used herein, the term "antibody" (Ab) is meant to include whole antibodies, including single-chain whole antibodies, and antigen-binding fragments thereof. In a preferred embodiment the antibodies are human antigen binding antibody fragments of the present invention include, but are not limited to, Fab, Fab' F(ab)2 and F(ab')2, Fd, single-chain Fvs (scFv), single-chain antibodies, disulfide-linked Fvs (sdFv) and fragments comprising either a V_L or V_H domain. The antibodies may be from any animal origin including birds and

mammals. Preferably, the antibodies are human, murine, rabbit, goat, guinea pig, camel, horse, or chicken.

Antigen-binding antibody fragments, including single-chain antibodies, may comprise the variable region(s) alone or in combination with the entire or partial regions of the following: hinge region, CH1, CH2, and CH3 domains. Also included in the invention are any combinations of variable region(s) and hinge region, CH1, CH2, and CH3 domains. The present invention further includes chimeric, humanized, and human monoclonal and polyclonal antibodies which specifically bind the polypeptides of the present invention. The present invention further includes antibodies which are anti-idiotypic to the antibodies of the present invention.

The antibodies of the present invention may be monospecific, bispecific, trispecific or of greater multispecificity. Multispecific antibodies may be specific for different epitopes of a polypeptide of the present invention or may be specific for both a polypeptide of the present invention as well as for heterologous compositions, such as a heterologous polypeptide or solid support material. *See, e.g.*, WO 93/17715; WO 92/08802; WO 91/00360; WO 92/05793; Tutt, A. et al. (1991) J. Immunol. 147:60-69; US Patents 5,573,920, 4,474,893, 5,601,819, 4,714,681, 4,925,648; Kostelny, S.A. et al. (1992) J. Immunol. 148:1547-1553, the disclosures of which are incorporated herein by reference in their entireties.

In some embodiments, the antibodies may be capable of specifically binding to a protein or polypeptide encoded by EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. In some embodiments, the antibody may be capable of binding an antigenic determinant or an epitope in a protein or polypeptide encoded by EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids.

In other embodiments, the antibodies may be capable of specifically binding to an EST-related polypeptide, fragment of an EST-related polypeptide, positional segment of an EST-related polypeptide or fragment of a positional segment of an EST-related polypeptide. In some embodiments, the antibody may be capable of binding an antigenic

determinant or an epitope in an EST-related polypeptide, fragment of an EST-related polypeptide, positional segment of an EST-related polypeptide or fragment of a positional segment of an EST-related polypeptide.

Antibodies of the present invention may be described or specified in terms of the epitope(s) or portion(s) of a polypeptide of the present invention which are recognized or specifically bound by the antibody.

In the case of secreted proteins, the antibodies may specifically bind a full-length protein encoded by a nucleic acid of the present invention, a mature protein (i.e. the protein generated by cleavage of the signal peptide) encoded by a nucleic acid of the present invention, or a signal peptide encoded by a nucleic acid of the present invention. Moreover, the epitope(s) or polypeptide portion(s) may be specified as described herein, *e.g.*, by N-terminal and C-terminal positions, by size in contiguous amino acid residues, or listed in the Tables and sequence listing. Antibodies which specifically bind any epitope or polypeptide of the present invention may also be excluded. Therefore, the present invention includes antibodies that specifically bind polypeptides of the present invention, and allows for the exclusion of the same.

Antibodies of the present invention may also be described or specified in terms of their cross-reactivity. Antibodies that do not bind any other analog, ortholog, or homolog of the polypeptides of the present invention are included. Antibodies that do not bind polypeptides with less than 95%, less than 90%, less than 85%, less than 80%, less than 75%, less than 70%, less than 65%, less than 60%, less than 55%, and less than 50% identity (as calculated using methods known in the art and described herein) to a polypeptide of the present invention are also included in the present invention. Further included in the present invention are antibodies which only bind polypeptides encoded by polynucleotides which hybridize to a polynucleotide of the present invention under stringent hybridization conditions (as described herein). Antibodies of the present invention may also be described or specified in terms of their binding affinity. Preferred binding affinities include those with a dissociation constant or Kd less than $5X10^{-6}M$, $10^{-6}M$, $5X10^{-7}M$, $10^{-7}M$, $5X10^{-8}M$, $10^{-8}M$, $5X10^{-9}M$, $10^{-9}M$, $5X10^{-10}M$, $10^{-10}M$, $5X10^{-11}M$, $10^{-11}M$, $5X10^{-12}M$, $10^{-12}M$, $5X10^{-13}M$, $10^{-13}M$, $5X10^{-14}M$, $10^{-14}M$, $5X10^{-15}M$, and $10^{-15}M$.

Antibodies of the present invention have uses that include, but are not limited to, methods known in the art to purify, detect, and target the polypeptides of the present invention including both *in vitro* and *in vivo* diagnostic and therapeutic methods. For example, the antibodies have use in immunoassays for qualitatively and quantitatively measuring levels of the polypeptides of the present invention in biological samples. *See, e.g.*, Harlow et al., *ANTIBODIES: A LABORATORY MANUAL,* (Cold Spring Harbor Laboratory Press, 2nd ed. 1988) (incorporated by reference in the entirety).

The antibodies of the present invention may be used either alone or in combination with other compositions. The antibodies may further be recombinantly fused to a heterologous polypeptide at the N- or C-terminus or chemically conjugated (including covalent and non-covalent conjugations) to polypeptides or other compositions. For example, antibodies of the present invention may be recombinantly fused or conjugated to molecules useful as labels in detection assays and effector molecules such as heterologous polypeptides, drugs, or toxins. *See, e.g.*, WO 92/08495; WO 91/14438; WO 89/12624; US Patent 5,314,995; and EP 0 396 387, the disclosures of which are incorporated herein by reference in their entireties.

The antibodies of the present invention may be prepared by any suitable method known in the art. For example, a polypeptide of the present invention or an antigenic fragment thereof can be administered to an animal in order to induce the production of sera containing polyclonal antibodies. The term "monoclonal antibody" is not limited to antibodies produced through hybridoma technology. The term "antibody" refers to a polypeptide or group of polypeptides which are comprised of at least one binding domain, where a binding domain is formed from the folding of variable domains of an antibody molecule to form three-dimensional binding spaces with an internal surface shape and charge distribution complementary to the features of an antigenic determinant of an antigen., which allows an immunological reaction with the antigen. The term "monoclonal antibody" refers to an antibody that is derived from a single clone, including eukaryotic, prokaryotic, or phage clone, and not the method by which it is produced. Monoclonal antibodies can be prepared using a wide variety of techniques known in the art including the use of hybridoma, recombinant, and phage display technology.

Hybridoma techniques include those known in the art (*See, e.g.*, Harlow et al., ANTIBODIES: A LABORATORY MANUAL, (Cold Spring Harbor Laboratory Press, 2nd ed. 1988); Hammerling, et al., in: MONOCLONAL ANTIBODIES AND T-CELL HYBRIDOMAS 563-681 (Elsevier, N.Y., 1981) (said references incorporated by reference in their entireties). Fab and F(ab')2 fragments may be produced, for example, from hybridoma-produced antibodies by proteolytic cleavage, using enzymes such as papain (to produce Fab fragments) or pepsin (to produce F(ab')2 fragments).

Alternatively, antibodies of the present invention can be produced through the application of recombinant DNA technology or through synthetic chemistry using methods known in the art. For example, the antibodies of the present invention can be prepared using various phage display methods known in the art. In phage display methods, functional antibody domains are displayed on the surface of a phage particle which carries polynucleotide sequences encoding them. Phage with a desired binding property are selected from a repertoire or combinatorial antibody library (e.g. human or murine) by selecting directly with antigen, typically antigen bound or captured to a solid surface or bead. Phage used in these methods are typically filamentous phage including fd and M13 with Fab, Fv or disulfide stabilized Fv antibody domains recombinantly fused to either the phage gene III or gene VIII protein. Examples of phage display methods that can be used to make the antibodies of the present invention include those disclosed in Brinkman U. et al. (1995) J. Immunol. Methods 182:41-50; Ames, R.S. et al. (1995) J. Immunol. Methods 184:177-186; Kettleborough, C.A. et al. (1994) Eur. J. Immunol. 24:952-958; Persic, L. et al. (1997) Gene 187 9-18; Burton, D.R. et al. (1994) Advances in Immunology 57:191-280; PCT/GB91/01134; WO 90/02809; WO 91/10737; WO 92/01047; WO 92/18619; WO 93/11236; WO 95/15982; WO 95/20401; and US Patents 5,698,426, 5,223,409, 5,403,484, 5,580,717, 5,427,908, 5,750,753, 5,821,047, 5,571,698, 5,427,908, 5,516,637, 5,780,225, 5,658,727 and 5,733,743 (said references incorporated by reference in their entireties).

As described in the above references, after phage selection, the antibody coding regions from the phage can be isolated and used to generate whole antibodies, including human antibodies, or any other desired antigen binding fragment, and expressed in any desired host including mammalian cells, insect cells, plant cells, yeast, and bacteria. For

example, techniques to recombinantly produce Fab, Fab' F(ab)2 and F(ab')2 fragments can also be employed using methods known in the art such as those disclosed in WO 92/22324; Mullinax, R.L. et al. (1992) BioTechniques 12(6):864-869; and Sawai, H. et al. (1995) AJRI 34:26-34; and Better, M. et al. (1988) Science 240:1041-1043 (said references incorporated by reference in their entireties).

Examples of techniques which can be used to produce single-chain Fvs and antibodies include those described in U.S. Patents 4,946,778 and 5,258,498; Huston et al. (1991) Methods in Enzymology 203:46-88; Shu, L. et al. (1993) PNAS 90:7995-7999; and Skerra, A. et al. (1988) Science 240:1038-1040, the disclosures of which are incorporated herein by reference in their entireties. For some uses, including *in vivo* use of antibodies in humans and *in vitro* detection assays, it may be preferable to use chimeric, humanized, or human antibodies. Methods for producing chimeric antibodies are known in the art. *See e.g.*, Morrison, Science 229:1202 (1985); Oi et. al., BioTechniques 4:214 (1986); Gillies, S.D. et al. (1989) J. Immunol. Methods 125:191-202; and US Patent 5,807,715. Antibodies can be humanized using a variety of techniques including CDR-grafting (EP 0 239 400; WO 91/09967; US Patent 5,530,101; and 5,585,089), veneering or resurfacing (EP 0 592 106; EP 0 519 596; Padlan E.A., (1991) Molecular Immunology 28(4/5):489-498; Studnicka G.M. et al. (1994) Protein Engineering 7(6):805-814; Roguska M.A. et al. (1994) PNAS 91:969-973), and chain shuffling (US Patent 5,565,332). Human antibodies can be made by a variety of methods known in the art including phage display methods described above. *See also*, US Patents 4,444,887, 4,716,111, 5,545,806, and 5,814,318; WO 98/46645; WO 98/50433; WO 98/24893; WO 96/34096; WO 96/33735; and WO 91/10741 (said references incorporated by reference in their entireties).

Further included in the present invention are antibodies recombinantly fused or chemically conjugated (including both covalently and non-covalently conjugations) to a polypeptide of the present invention. The antibodies may be specific for antigens other than polypeptides of the present invention. For example, antibodies may be used to target the polypeptides of the present invention to particular cell types, either *in vitro* or *in vivo*, by fusing or conjugating the polypeptides of the present invention to antibodies specific for particular cell surface receptors. Antibodies fused or conjugated to the

polypeptides of the present invention may also be used in *in vitro* immunoassays and purification methods using methods known in the art. *See e.g.*, Harbor et al. *supra* and WO 93/21232; EP 0 439 095; Naramura, M. et al. (1994) Immunol. Lett. 39:91-99; US Patent 5,474,981; Gillies, S.O. et al. (1992) PNAS 89:1428-1432; Fell, H.P. et al. (1991) J. Immunol. 146:2446-2452 (said references incorporated by reference in their entireties).

The present invention further includes compositions comprising the polypeptides of the present invention fused or conjugated to antibody domains other than the variable regions. For example, the polypeptides of the present invention may be fused or conjugated to an antibody Fc region, or portion thereof. The antibody portion fused to a polypeptide of the present invention may comprise the hinge region, CH1 domain, CH2 domain, and CH3 domain or any combination of whole domains or portions thereof. The polypeptides of the present invention may be fused or conjugated to the above antibody portions to increase the *in vivo* half life of the polypeptides or for use in immunoassays using methods known in the art. The polypeptides may also be fused or conjugated to the above antibody portions to form multimers. For example, Fc portions fused to the polypeptides of the present invention can form dimers through disulfide bonding between the Fc portions. Higher multimeric forms can be made by fusing the polypeptides to portions of IgA and IgM. Methods for fusing or conjugating the polypeptides of the present invention to antibody portions are known in the art. *See e.g.*, US Patents 5,336,603, 5,622,929, 5,359,046, 5,349,053, 5,447,851, 5,112,946; EP 0 307 434, EP 0 367 166; WO 96/04388, WO 91/06570; Ashkenazi, A. et al. (1991) PNAS 88:10535-10539; Zheng, X.X. et al. (1995) J. Immunol. 154:5590-5600; and Vil, H. et al. (1992) PNAS 89:11337-11341 (said references incorporated by reference in their entireties).

The invention further relates to antibodies which act as agonists or antagonists of the polypeptides of the present invention. For example, the present invention includes antibodies which disrupt the receptor/ligand interactions with the polypeptides of the invention either partially or fully. Included are both receptor-specific antibodies and ligand-specific antibodies. Included are receptor-specific antibodies which do not prevent ligand binding but prevent receptor activation. Receptor activation (i.e.,

signaling) may be determined by techniques described herein or otherwise known in the art. Also include are receptor-specific antibodies which both prevent ligand binding and receptor activation. Likewise, included are neutralizing antibodies which bind the ligand and prevent binding of the ligand to the receptor, as well as antibodies which bind the ligand, thereby preventing receptor activation, but do not prevent the ligand from binding the receptor. Further included are antibodies which activate the receptor. These antibodies may act as agonists for either all or less than all of the biological activities affected by ligand-mediated receptor activation. The antibodies may be specified as agonists or antagonists for biological activities comprising specific activities disclosed herein. The above antibody agonists can be made using methods known in the art. See e.g., WO 96/40281; US Patent 5,811,097; Deng, B. et al. (1998) Blood 92(6):1981-1988; Chen, Z. et al. (1998) Cancer Res. 58(16):3668-3678; Harrop, J.A. et al. (1998) J. Immunol. 161(4):1786-1794; Zhu, Z. et al. (1998) Cancer Res. 58(15):3209-3214; Yoon, D.Y. et al. (1998) J. Immunol. 160(7):3170-3179; Prat, M. et al. (1998) J. Cell. Sci. 111(Pt2):237-247; Pitard, V. et al. (1997) J. Immunol. Methods 205(2):177-190; Liautard, J. et al. (1997) Cytokinde 9(4):233-241; Carlson, N.G. et al. (1997) J. Biol. Chem. 272(17):11295-11301; Taryman, R.E. et al. (1995) Neuron 14(4):755-762; Muller, Y.A. et al. (1998) Structure 6(9):1153-1167; Bartunek, P. et al. (1996) Cytokine 8(1):14-20 (said references incorporated by reference in their entireties).

As discussed above, antibodies of the polypeptides of the invention can, in turn, be utilized to generate anti-idiotypic antibodies that “mimic” polypeptides of the invention using techniques well known to those skilled in the art. *See, e.g.* Greenspan and Bona, FASEB J. 7(5):437-444 (1989); Nissinoff, J. Immunol. 147(8):2429-2438 (1991), the disclosures of which are incorporated herein by reference in their entireties. For example, antibodies which bind to and competitively inhibit polypeptide multimerization or binding of a polypeptide of the invention to ligand can be used to generate anti-idiotypes that “mimic” the polypeptide multimerization or binding domain and , as a consequence, bind to and neutralize polypeptide or its ligand. Such neutralization anti-idiotypic antibodies can be used to bind a polypeptide of the invention or to bind its ligands/receptors, and therby block its biological activity,

EXAMPLE 33

Production of an Antibody to a Human Polypeptide or Protein

The above described EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or nucleic acids encoding EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides are operably linked to promoters and introduced into cells as described above.

In the case of secreted proteins, nucleic acids encoding the full protein (i.e. the mature protein and the signal peptide), nucleic acids encoding the mature protein (i.e. the protein generated by cleavage of the signal peptide), or nucleic acids encoding the signal peptide are operably linked to promoters and introduced into cells as described above.

The encoded proteins or polypeptides are then substantially purified or isolated as described above. The concentration of protein in the final preparation is adjusted, for example, by concentration on an Amicon filter device, to the level of a few μg/ml. Monoclonal or polyclonal antibody to the protein or polypeptide can then be prepared as follows:

1. Monoclonal Antibody Production by Hybridoma Fusion

Monoclonal antibody to epitopes of any of the proteins or polypeptides identified and isolated as described can be prepared from murine hybridomas according to the classical method of Kohler, and Milstein, *Nature* **256**:495 (1975) or derivative methods thereof. Briefly, a mouse is repetitively inoculated with a few micrograms of the selected protein or peptides derived therefrom over a period of a few weeks. The mouse is then sacrificed, and the antibody producing cells of the spleen isolated. The spleen cells are fused by means of polyethylene glycol with mouse myeloma cells, and the excess unfused cells destroyed by growth of the system on selective media comprising aminopterin (HAT media). The successfully fused cells are diluted and aliquots of the dilution placed in wells of a microtiter plate where growth of the culture is continued. Antibody-producing clones are identified by detection of antibody in the supernatant fluid of the wells by immunoassay procedures, such as Elisa, as originally described by Engvall, *Meth.*

Enzymol. **70**:419 (1980), the disclosure of which is incorporated herein by reference and derivative methods thereof. Selected positive clones can be expanded and their monoclonal antibody product harvested for use. Detailed procedures for monoclonal antibody production are described in Davis, L. *et al.* in *Basic Methods in Molecular Biology* Elsevier, New York. Section 21-2, the disclosure of which is incorporated herein by reference.

2. Polyclonal Antibody Production by Immunization

Polyclonal antiserum containing antibodies to heterogenous epitopes of a single protein or polypeptide can be prepared by immunizing suitable animals with the expressed protein or peptides derived therefrom, which can be unmodified or modified to enhance immunogenicity. Effective polyclonal antibody production is affected by many factors related both to the antigen and the host species. For example, small molecules tend to be less immunogenic than others and may require the use of carriers and adjuvant. Also, host animals response vary depending on site of inoculations and doses, with both inadequate or excessive doses of antigen resulting in low titer antisera. Small doses (ng level) of antigen administered at multiple intradermal sites appears to be most reliable. An effective immunization protocol for rabbits can be found in Vaitukaitis. *et al.J. Clin. Endocrinol. Metab.* **33**:988-991 (1971) , the disclosure of which is incorporated herein by reference.

Booster injections can be given at regular intervals, and antiserum harvested when antibody titer thereof, as determined semi-quantitatively, for example, by double immunodiffusion in agar against known concentrations of the antigen, begins to fall. See, for example, Ouchterlony, *et al.*, Chap. 19 in: *Handbook of Experimental Immunology* D. Wier (ed) Blackwell (1973) , the disclosure of which is incorporated herein by reference. Plateau concentration of antibody is usually in the range of 0.1 to 0.2 mg/ml of serum (about 12 μM). Affinity of the antisera for the antigen is determined by preparing competitive binding curves, as described, for example, by Fisher, D., Chap. 42 in: *Manual of Clinical Immunology*, 2d Ed. (Rose and Friedman, Eds.) Amer. Soc. For Microbiol., Washington, D.C. (1980) , the disclosure of which is incorporated herein by reference.

Antibody preparations prepared according to either of the above protocols are useful in a variety of contexts. In particular, the antibodies may be used in immunoaffinity

chromatography techniques such as those described below to facilitate large scale isolation, purification, or enrichment of the proteins or polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or for the isolation, purification or enrichment of EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides.

In the case of secreted proteins, the antibodies may be used for the isolation, purification, or enrichment of the full protein (i.e. the mature protein and the signal peptide), the mature protein (i.e. the protein generated by cleavage of the signal peptide), or the signal peptide are operably linked to promoters and introduced into cells as described above.

Additionally, the antibodies may be used in immunoaffinity chromatography techniques such as those described below to isolate, purify, or enrich polypeptides which have been linked to the proteins or polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or to isolate, purify, or enrich EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides.

The antibodies may also be used to determine the cellular localization of polypeptides encoded by the proteins or polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or the cellular localization of EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides.

In addition, the antibodies may also be used to determine the cellular localization of polypeptides which have been linked to the proteins or polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or polypeptides which have been linked EST-related polypeptides, fragments of EST-related polypeptides, positional segments of

EST-related polypeptides or fragments of positional segments of EST-related polypeptides .

The antibodies may also be used in quantitative immunoassays which determine concentrations of antigen-bearing substances in biological samples; they may also used semi-quantitatively or qualitatively to identify the presence of antigen in a biological sample or to identify the type of tissue present in a biological sample. The antibodies may also be used in therapeutic compositions for killing cells expressing the protein or reducing the levels of the protein in the body.

VI. Use of 5'ESTs and Consensus Contigated 5' ESTs or Sequences Obtainable Therefrom or Portions Thereof as Reagents

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used as reagents in isolation procedures, diagnostic assays, and forensic procedures. For example, sequences from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids, may be detectably labeled and used as probes to isolate other sequences capable of hybridizing to them. In addition, the he EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used to design PCR primers to be used in isolation, diagnostic, or forensic procedures.

1. Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids in isolation, diagnostic and forensic procedures

EXAMPLE 34

Preparation of PCR Primers and Amplification of DNA

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used to prepare PCR primers for a variety of applications, including isolation procedures for cloning nucleic acids capable of hybridizing to such sequences, diagnostic techniques and forensic techniques. In some embodiments, the PCR primers at least 10, 15, 18, 20, 23, 25, 28, 30,

40, or 50 nucleotides in length. In some embodiments, the PCR primers may be more than 30 bases in length. It is preferred that the primer pairs have approximately the same G/C ratio, so that melting temperatures are approximately the same. A variety of PCR techniques are familiar to those skilled in the art. For a review of PCR technology, see Molecular Cloning to Genetic Engineering White, B.A. Ed. *in Methods in Molecular Biology* **67**: Humana Press, Totowa 1997, the disclosure of which is incorporated herein by reference. In each of these PCR procedures, PCR primers on either side of the nucleic acid sequences to be amplified are added to a suitably prepared nucleic acid sample along with dNTPs and a thermostable polymerase such as Taq polymerase, Pfu polymerase, or Vent polymerase. The nucleic acid in the sample is denatured and the PCR primers are specifically hybridized to complementary nucleic acid sequences in the sample. The hybridized primers are extended. Thereafter, another cycle of denaturation, hybridization, and extension is initiated. The cycles are repeated multiple times to produce an amplified fragment containing the nucleic acid sequence between the primer sites.

EXAMPLE 35

Use of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids as probes

Probes derived from EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be labeled with detectable labels familiar to those skilled in the art, including radioisotopes and non-radioactive labels, to provide a detectable probe. The detectable probe may be single stranded or double stranded and may be made using techniques known in the art, including *in vitro* transcription, nick translation, or kinase reactions. A nucleic acid sample containing a sequence capable of hybridizing to the labeled probe is contacted with the labeled probe. If the nucleic acid in the sample is double stranded, it may be denatured prior to contacting the probe. In some applications, the nucleic acid sample may be immobilized on a surface such as a nitrocellulose or nylon membrane. The nucleic acid sample may comprise nucleic acids obtained from a variety of sources, including genomic DNA, cDNA libraries, RNA, or tissue samples.

Procedures used to detect the presence of nucleic acids capable of hybridizing to the detectable probe include well known techniques such as Southern blotting, Northern blotting, dot blotting, colony hybridization, and plaque hybridization. In some applications, the nucleic acid capable of hybridizing to the labeled probe may be cloned into vectors such as expression vectors, sequencing vectors, or *in vitro* transcription vectors to facilitate the characterization and expression of the hybridizing nucleic acids in the sample. For example, such techniques may be used to isolate and clone sequences in a genomic library or cDNA library which are capable of hybridizing to the detectable probe as described in Example 18 above.

PCR primers made as described in Example 34 above may be used in forensic analyses, such as the DNA fingerprinting techniques described in Examples 36-40 below. Such analyses may utilize detectable probes or primers based on the sequences of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids.

EXAMPLE 36

Forensic Matching by DNA Sequencing

In one exemplary method, DNA samples are isolated from forensic specimens of, for example, hair, semen, blood or skin cells by conventional methods. A panel of PCR primers based on a number of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is then utilized in accordance with Example 34 to amplify DNA of approximately 100-200 bases in length from the forensic specimen. Corresponding sequences are obtained from a test subject. Each of these identification DNAs is then sequenced using standard techniques, and a simple database comparison determines the differences, if any, between the sequences from the subject and those from the sample. Statistically significant differences between the suspect's DNA sequences and those from the sample conclusively prove a lack of identity. This lack of identity can be proven, for example, with only one sequence. Identity, on the other hand, should be demonstrated with a large number of sequences, all matching. Preferably, a minimum of 50 statistically identical sequences of 100 bases in length are used to prove identity between the suspect and the sample.

EXAMPLE 37

Positive Identification by DNA Sequencing

The technique outlined in the previous example may also be used on a larger scale to provide a unique fingerprint-type identification of any individual. In this technique, primers are prepared from a large number of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. Preferably, 20 to 50 different primers are used. These primers are used to obtain a corresponding number of PCR-generated DNA segments from the individual in question in accordance with Example 34. Each of these DNA segments is sequenced, using the methods set forth in Example 36. The database of sequences generated through this procedure uniquely identifies the individual from whom the sequences were obtained. The same panel of primers may then be used at any later time to absolutely correlate tissue or other biological specimen with that individual.

EXAMPLE 38

Southern Blot Forensic Identification

The procedure of Example 37 is repeated to obtain a panel of at least 10 amplified sequences from an individual and a specimen. Preferably, the panel contains at least 50 amplified sequences. More preferably, the panel contains 100 amplified sequences. In some embodiments, the panel contains 200 amplified sequences. This PCR-generated DNA is then digested with one or a combination of, preferably, four base specific restriction enzymes. Such enzymes are commercially available and known to those of skill in the art. After digestion, the resultant gene fragments are size separated in multiple duplicate wells on an agarose gel and transferred to nitrocellulose using Southern blotting techniques well known to those with skill in the art. For a review of Southern blotting see Davis *et al.* (Basic Methods in Molecular Biology, 1986, Elsevier Press. pp 62-65) , the disclosure of which is incorporated herein by reference.

A panel of probes based on the sequences of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are radioactively or colorimetrically labeled using methods

known in the art, such as nick translation or end labeling, and hybridized to the Southern blot using techniques known in the art (Davis *et al.*, supra). Preferably, the probe is at least 10, 12, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400 or 500 nucleotides in length. Preferably, the probes are at least 10, 12, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400 or 500 nucleotides in length. In some embodiments, the probes are oligonucleotides which are 40 nucleotides in length or less.

Preferably, at least 5 to 10 of these labeled probes are used, and more preferably at least about 20 or 30 are used to provide a unique pattern. The resultant bands appearing from the hybridization of a large sample of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids will be a unique identifier. Since the restriction enzyme cleavage will be different for every individual, the band pattern on the Southern blot will also be unique. Increasing the number of probes will provide a statistically higher level of confidence in the identification since there will be an increased number of sets of bands used for identification.

EXAMPLE 39

Dot Blot Identification Procedure

Another technique for identifying individuals using the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids disclosed herein utilizes a dot blot hybridization technique.

Genomic DNA is isolated from nuclei of subject to be identified. Probes are prepared that correspond to at least 10, preferably 50 sequences from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. The probes are used to hybridize to the genomic DNA through conditions known to those in the art. The oligonucleotides are end labeled with P^{32} using polynucleotide kinase (Pharmacia). Dot Blots are created by spotting the genomic DNA onto nitrocellulose or the like using a vacuum dot blot manifold (BioRad, Richmond California). The nitrocellulose filter containing the genomic sequences is baked or UV linked to the filter, prehybridized and hybridized with labeled probe using techniques known in the art (Davis et *al.*, *supra*). The ^{32}P labeled DNA fragments are

sequentially hybridized with successively stringent conditions to detect minimal differences between the 30 bp sequence and the DNA. Tetramethylammonium chloride is useful for identifying clones containing small numbers of nucleotide mismatches (Wood *et al., Proc. Natl. Acad. Sci. USA* **82(6)**:1585-1588 (1985)) which is hereby incorporated by reference. A unique pattern of dots distinguishes one individual from another individual.

EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids can be used as probes in the following alternative fingerprinting technique. In some embodiments, the probes are oligonucleotides which are 40 nucleotides in length or less.

Preferably, a plurality of probes having sequences from different EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are used in the alternative fingerprinting technique. Example 40 below provides a representative alternative fingerprinting procedure in which the probes are derived from EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids.

EXAMPLE 40

Alternative "Fingerprint" Identification Technique

Oligonucleotides are prepared from a large number, e.g. 50, 100, or 200, EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids using commercially available oligonucleotide services such as Genset, Paris, France. Preferably, the oligonucleotides are at least 10, 15, 18, 20, 23, 25 28, or 30 nucleotides in length. However, in some embodiments, the oligonucleotides may be more than 30 nucleotides in length.

Cell samples from the test subject are processed for DNA using techniques well known to those with skill in the art. The nucleic acid is digested with restriction enzymes such as EcoRI and XbaI. Following digestion, samples are applied to wells for electrophoresis. The procedure, as known in the art, may be modified to accommodate polyacrylamide electrophoresis, however in this example, samples containing 5 ug of DNA are loaded into wells and separated on 0.8% agarose gels. The gels are transferred onto nitrocellulose using standard Southern blotting techniques.

10 ng of each of the oligonucleotides are pooled and end-labeled with P^{32}. The nitrocellulose is prehybridized with blocking solution and hybridized with the labeled probes. Following hybridization and washing, the nitrocellulose filter is exposed to X-Omat AR X-ray film. The resulting hybridization pattern will be unique for each individual.

It is additionally contemplated within this example that the number of probe sequences used can be varied for additional accuracy or clarity.

In addition to their applications in forensics and identification, EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be mapped to their chromosomal locations. Example 41 below describes radiation hybrid (RH) mapping of human chromosomal regions using EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. Example 42 below describes a representative procedure for mapping EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to their locations on human chromosomes. Example 43 below describes mapping of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids on metaphase chromosomes by Fluorescence In Situ Hybridization (FISH).

2. Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids in Chromosome Mapping

EXAMPLE 41

Radiation hybrid mapping of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to the human genome

Radiation hybrid (RH) mapping is a somatic cell genetic approach that can be used for high resolution mapping of the human genome. In this approach, cell lines containing one or more human chromosomes are lethally irradiated, breaking each chromosome into fragments whose size depends on the radiation dose. These fragments are rescued by

fusion with cultured rodent cells, yielding subclones containing different portions of the human genome. This technique is described by Benham *et al.* (*Genomics* **4**:509-517, 1989) and Cox *et al.*, (*Science* **250**:245-250, 1990), the entire contents of which are hereby incorporated by reference. The random and independent nature of the subclones permits efficient mapping of any human genome marker. Human DNA isolated from a panel of 80-100 cell lines provides a mapping reagent for ordering EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. In this approach, the frequency of breakage between markers is used to measure distance, allowing construction of fine resolution maps as has been done using conventional ESTs (Schuler *et al.*, *Science* **274**:540-546, 1996, hereby incorporated by reference).

RH mapping has been used to generate a high-resolution whole genome radiation hybrid map of human chromosome 17q22-q25.3 across the genes for growth hormone (GH) and thymidine kinase (TK) (Foster *et al.*, *Genomics* **33**:185-192, 1996), the region surrounding the Gorlin syndrome gene (Obermayr *et al.*, *Eur. J. Hum. Genet.* **4**:242-245, 1996), 60 loci covering the entire short arm of chromosome 12 (Raeymaekers *et al.*, *Genomics* **29**:170-178, 1995), the region of human chromosome 22 containing the neurofibromatosis type 2 locus (Frazer *et al.*, *Genomics* **14**:574-584, 1992) and 13 loci on the long arm of chromosome 5 (Warrington *et al.*, *Genomics* **11**:701-708, 1991).

EXAMPLE 42

Mapping of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to Human Chromosomes using PCR techniques

EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be assigned to human chromosomes using PCR based methodologies. In such approaches, oligonucleotide primer pairs are designed from EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to minimize the chance of amplifying through an intron. Preferably, the oligonucleotide primers are 18-23 bp in length and are designed for PCR amplification. The creation of

PCR primers from known sequences is well known to those with skill in the art. For a review of PCR technology see Erlich. in PCR Technology; Principles and Applications for DNA Amplification. 1992. W.H. Freeman and Co., New York, the disclosure of which is incorporated herein by reference.

The primers are used in polymerase chain reactions (PCR) to amplify templates from total human genomic DNA. PCR conditions are as follows: 60 ng of genomic DNA is used as a template for PCR with 80 ng of each oligonucleotide primer, 0.6 unit of Taq polymerase, and 1 μCu of a ^{32}P-labeled deoxycytidine triphosphate. The PCR is performed in a microplate thermocycler (Techne) under the following conditions: 30 cycles of 94°C, 1.4 min; 55°C, 2 min; and 72°C, 2 min; with a final extension at 72°C for 10 min. The amplified products are analyzed on a 6% polyacrylamide sequencing gel and visualized by autoradiography. If the length of the resulting PCR product is identical to the distance between the ends of the primer sequences in the 5'EST from which the primers are derived, then the PCR reaction is repeated with DNA templates from two panels of human-rodent somatic cell hybrids, BIOS PCRable DNA (BIOS Corporation) and NIGMS Human-Rodent Somatic Cell Hybrid Mapping Panel Number 1 (NIGMS, Camden, NJ).

PCR is used to screen a series of somatic cell hybrid cell lines containing defined sets of human chromosomes for the presence of a given 5'EST. DNA is isolated from the somatic hybrids and used as starting templates for PCR_reactions using the primer pairs from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. Only those somatic cell hybrids with chromosomes containing the human gene corresponding to the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids will yield an amplified fragment. The 5'ESTs are assigned to a chromosome by analysis of the segregation pattern of PCR products from the somatic hybrid DNA templates. The single human chromosome present in all cell hybrids that give rise to an amplified fragment is the chromosome containing that EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. For a review of techniques and analysis of results

from somatic cell gene mapping experiments. (See Ledbetter et al., Genomics 6:475-481 (1990)., the disclosure of which is incorporated herein by reference.)

Alternatively, the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be mapped to individual chromosomes using FISH as described in Example 43 below.

EXAMPLE 43

Mapping of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to Chromosomes Using Fluorescence In Situ Hybridization

Fluorescence in situ hybridization allows the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to be mapped to a particular location on a given chromosome. The chromosomes to be used for fluorescence in situ hybridization techniques may be obtained from a variety of sources including cell cultures, tissues, or whole blood.

In a preferred embodiment, chromosomal localization of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are obtained by FISH as described by Cherif *et al.* (*Proc. Natl. Acad. Sci. U.S.A.*, **87**:6639-6643, 1990) , the disclosure of which is incorporated herein by reference. Metaphase chromosomes are prepared from phytohemagglutinin (PHA)-stimulated blood cell donors. PHA-stimulated lymphocytes from healthy males are cultured for 72 h in RPMI-1640 medium. For synchronization, methotrexate (10 μM) is added for 17 h, followed by addition of 5-bromodeoxyuridine (5-BrdU, 0.1 mM) for 6 h. Colcemid (1 μg/ml) is added for the last 15 min before harvesting the cells. Cells are collected, washed in RPMI, incubated with a hypotonic solution of KCl (75 mM) at 37°C for 15 min and fixed in three changes of methanol:acetic acid (3:1). The cell suspension is dropped onto a glass slide and air dried. The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is labeled with biotin-16 dUTP by nick translation according to the manufacturer's instructions (Bethesda Research Laboratories, Bethesda, MD), purified using a Sephadex G-50 column (Pharmacia, Upsala, Sweden) and

precipitated. Just prior to hybridization, the DNA pellet is dissolved in hybridization buffer (50% formamide, 2 X SSC, 10% dextran sulfate, 1 mg/ml sonicated salmon sperm DNA, pH 7) and the probe is denatured at 70°C for 5-10 min.

Slides kept at -20°C are treated for 1 h at 37°C with RNase A (100 µg/ml), rinsed three times in 2 X SSC and dehydrated in an ethanol series. Chromosome preparations are denatured in 70% formamide, 2 X SSC for 2 min at 70°C, then dehydrated at 4°C. The slides are treated with proteinase K (10 µg/100 ml in 20 mM Tris-HCl, 2 mM $CaCl_2$) at 37°C for 8 min and dehydrated. The hybridization mixture containing the probe is placed on the slide, covered with a coverslip, sealed with rubber cement and incubated overnight in a humid chamber at 37°C. After hybridization and post-hybridization washes, the biotinylated probe is detected by avidin-FITC and amplified with additional layers of biotinylated goat anti-avidin and avidin-FITC. For chromosomal localization, fluorescent R-bands are obtained as previously described (Cherif *et al.*, *supra.*). The slides are observed under a LEICA fluorescence microscope (DMRXA). Chromosomes are counterstained with propidium iodide and the fluorescent signal of the probe appears as two symmetrical yellow-green spots on both chromatids of the fluorescent R-band chromosome (red). Thus, a particular EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be localized to a particular cytogenetic R-band on a given chromosome.

Once the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids have been assigned to particular chromosomes using the techniques described in Examples 41-43 above, they may be utilized to construct a high resolution map of the chromosomes on which they are located or to identify the chromosomes in a sample.

EXAMPLE 44

Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to Construct or Expand Chromosome Maps

Chromosome mapping involves assigning a given unique sequence to a particular chromosome as described above. Once the unique sequence has been mapped to a given chromosome, it is ordered relative to other unique sequences located on the same chromosome. One approach to chromosome mapping utilizes a series of yeast artificial chromosomes (YACs) bearing several thousand long inserts derived from the chromosomes of the organism from which the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are obtained. This approach is described in Ramaiah Nagaraja *et al., Genome Research* **7**:210-222, March 1997, the disclosure of which is incorporated herein by reference. Briefly, in this approach each chromosome is broken into overlapping pieces which are inserted into the YAC vector. The YAC inserts are screened using PCR or other methods to determine whether they include the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids whose position is to be determined. Once an insert has been found which includes the 5'EST, the insert can be analyzed by PCR or other methods to determine whether the insert also contains other sequences known to be on the chromosome or in the region from which the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids was derived. This process can be repeated for each insert in the YAC library to determine the location of each of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids relative to one another and to other known chromosomal markers. In this way, a high resolution map of the distribution of numerous unique markers along each of the organisms chromosomes may be obtained.

As described in Example 45 below EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic

acids may also be used to identify genes associated with a particular phenotype, such as hereditary disease or drug response.

3. Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids Gene Identification

EXAMPLE 45

Identification of genes associated with hereditary diseases or drug response

This example illustrates an approach useful for the association of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids with particular phenotypic characteristics. In this example, a particular EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is used as a test probe to associate that EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids with a particular phenotypic characteristic.

EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are mapped to a particular location on a human chromosome using techniques such as those described in Examples 41 and 42 or other techniques known in the art. A search of Mendelian Inheritance in Man (V. McKusick, *Mendelian Inheritance in Man* (available on line through Johns Hopkins University Welch Medical Library) reveals the region of the human chromosome which contains the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to be a very gene rich region containing several known genes and several diseases or phenotypes for which genes have not been identified. The gene corresponding to this EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids thus becomes an immediate candidate for each of these genetic diseases.

Cells from patients with these diseases or phenotypes are isolated and expanded in culture. PCR primers from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are

used to screen genomic DNA, mRNA or cDNA obtained from the patients. EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids that are not amplified in the patients can be positively associated with a particular disease by further analysis. Alternatively, the PCR analysis may yield fragments of different lengths when the samples are derived from an individual having the phenotype associated with the disease than when the sample is derived from a healthy individual, indicating that the gene containing the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be responsible for the genetic disease.

VII. Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to Construct Vectors and Uses Thereof

The present EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may also be used to construct secretion vectors capable of directing the secretion of the proteins encoded by genes therein. Such secretion vectors may facilitate the purification or enrichment of the proteins encoded by genes inserted therein by reducing the number of background proteins from which the desired protein must be purified or enriched. Exemplary secretion vectors are described in Example 46 below.

1. Construction of Vectors and Uses Thereof

EXAMPLE 46

Construction of Secretion Vectors

The secretion vectors of the present invention include a promoter capable of directing gene expression in the host cell, tissue, or organism of interest. Such promoters include the Rous Sarcoma Virus promoter, the SV40 promoter, the human cytomegalovirus promoter, and other promoters familiar to those skilled in the art.

A signal sequence from one of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is operably linked to the promoter such that the mRNA transcribed from the

promoter will direct the translation of the signal peptide. Preferably, the signal sequence is from one of the nucleic acids of SEQ ID NOs.24-3883. The host cell, tissue, or organism may be any cell, tissue, or organism which recognizes the signal peptide encoded by the signal sequence in the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. Suitable hosts include mammalian cells, tissues or organisms, avian cells, tissues, or organisms, insect cells, tissues or organisms, or yeast.

In addition, the secretion vector contains cloning sites for inserting genes encoding the proteins which are to be secreted. The cloning sites facilitate the cloning of the insert gene in frame with the signal sequence such that a fusion protein in which the signal peptide is fused to the protein encoded by the inserted gene is expressed from the mRNA transcribed from the promoter. The signal peptide directs the extracellular secretion of the fusion protein.

The secretion vector may be DNA or RNA and may integrate into the chromosome of the host, be stably maintained as an extrachromosomal replicon in the host, be an artificial chromosome, or be transiently present in the host. Preferably, the secretion vector is maintained in multiple copies in each host cell. As used herein, multiple copies means at least 2, 5, 10, 20, 25, 50 or more than 50 copies per cell. In some embodiments, the multiple copies are maintained extrachromosomally. In other embodiments, the multiple copies result from amplification of a chromosomal sequence.

Many nucleic acid backbones suitable for use as secretion vectors are known to those skilled in the art, including retroviral vectors, SV40 vectors, Bovine Papilloma Virus vectors, yeast integrating plasmids, yeast episomal plasmids, yeast artificial chromosomes, human artificial chromosomes, P element vectors, baculovirus vectors, or bacterial plasmids capable of being transiently introduced into the host.

The secretion vector may also contain a polyA signal such that the polyA signal is located downstream of the gene inserted into the secretion vector.

After the gene encoding the protein for which secretion is desired is inserted into the secretion vector, the secretion vector is introduced into the host cell, tissue, or organism using calcium phosphate precipitation, DEAE-Dextran, electroporation, liposome-mediated transfection, viral particles or as naked DNA. The protein encoded by

the inserted gene is then purified or enriched from the supernatant using conventional techniques such as ammonium sulfate precipitation, immunoprecipitation, immunoaffinitychromatography, size exclusion chromatography, ion exchange chromatography, and HPLC. Alternatively, the secreted protein may be in a sufficiently enriched or pure state in the supernatant or growth media of the host to permit it to be used for its intended purpose without further enrichment.

The signal sequences may also be inserted into vectors designed for gene therapy. In such vectors, the signal sequence is operably linked to a promoter such that mRNA transcribed from the promoter encodes the signal peptide. A cloning site is located downstream of the signal sequence such that a gene encoding a protein whose secretion is desired may readily be inserted into the vector and fused to the signal sequence. The vector is introduced into an appropriate host cell. The protein expressed from the promoter is secreted extracellularly, thereby producing a therapeutic effect.

EXAMPLE 47

Fusion Vectors

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used to construct fusion vectors for the expression of chimeric polypeptides. The chimeric polypeptides comprise a first polypeptide portion and a second polypeptide portion. In the fusion vectors of the present invention, nucleic acids encoding the first polypeptide portion and the second polypeptide portion are joined in frame with one another so as to generate a nucleic acid encoding the chimeric polypeptide. The nucleic acid encoding the chimeric polypeptide is operably linked to a promoter which directs the expression of an mRNA encoding the chimeric polypeptide. The promoter may be in any of the expression vectors described herein including those described in Examples 20 and 46.

Preferably, the fusion vector is maintained in multiple copies in each host cell. In some embodiments, the multiple copies are maintained extrachromosomally. In other embodiments, the multiple copies result from amplification of a chromosomal sequence.

The first polypeptide portion may comprise any of the polypeptides encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments

of positional segments of EST-related nucleic acids. In some embodiments, the first polypeptide portion may be one of the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides.

The second polypeptide portion may comprise any polypeptide of interest. In some embodiments, the second polypeptide portion may comprise a polypeptide having a detectable enzymatic activity such as green fluorescent protein or β galactosidase. Chimeric polypeptides in which the second polypeptide portion comprises a detectable polypeptide may be used to determine the intracellular localization of the first polypeptide portion. In such procedures, the fusion vector encoding the chimeric polypeptide is introduced into a host cell under conditions which facilitate the expression of the chimeric polypeptide. Where appropriate, the cells are treated with a detection reagent which is visible under the microscope following a catalytic reaction with the detectable polypeptide and the cellular location of the detection reagent is determined. For example, if the polypeptide having a detectable enzymatic activity is β galactosidase, the cells may be treated with Xgal. Alternatively, where the detectable polypeptide is directly detectable without the addition of a detection reagent, the intracellular location of the chimeric polypeptide is determined by performing microscopy under conditions in which the dectable polypeptide is visible. For example, if the detectable polypeptide is green fluorescent protein or a modified version thereof, microscopy is performed by exposing the host cells to light having an appropriate wavelength to cause the green fluorescent protein or modified version thereof to fluoresce.

Alternatively, the second polypeptide portion may comprise a polypeptide whose isolation, purification, or enrichment is desired. In such embodiments, the isolation, purification, or enrichment of the second polypeptide portion may be achieved by performing the immunoaffinity chromatography procedures described below using an immunoaffinity column having an antibody directed against the first polypeptide portion coupled thereto.

The proteins encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or the EST-related polypeptides, fragments of EST-related polypeptides, positional

segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides may also be used to generate antibodies as explained in Examples 20 and 33 in order to identify the tissue type or cell species from which a sample is derived as described in Example 48.

EXAMPLE 48

Identification of Tissue Types or Cell Species by Means of Labeled Tissue Specific Antibodies

Identification of specific tissues is accomplished by the visualization of tissue specific antigens by means of antibody preparations according to Examples 20 and 33 which are conjugated, directly or indirectly to a detectable marker. Selected labeled antibody species bind to their specific antigen binding partner in tissue sections, cell suspensions, or in extracts of soluble proteins from a tissue sample to provide a pattern for qualitative or semi-qualitative interpretation.

Antisera for these procedures must have a potency exceeding that of the native preparation, and for that reason, antibodies are concentrated to a mg/ml level by isolation of the gamma globulin fraction, for example, by ion-exchange chromatography or by ammonium sulfate fractionation. Also, to provide the most specific antisera, unwanted antibodies, for example to common proteins, must be removed from the gamma globulin fraction, for example by means of insoluble immunoabsorbents, before the antibodies are labeled with the marker. Either monoclonal or heterologous antisera is suitable for either procedure.

1. Immunohistochemical Techniques

Purified, high-titer antibodies, prepared as described above, are conjugated to a detectable marker, as described, for example, by Fudenberg, H., Chap. 26 in*: Basic 503 Clinical Immunology*, 3rd Ed. Lange, Los Altos, California (1980) or Rose,. *et al.*, Chap. **12** in: *Methods in ImmunodiagNOsis*, 2d Ed. John Wiley and Sons, New York (1980), the disclosures of which are incorporated herein by reference.

A fluorescent marker, either fluorescein or rhodamine, is preferred, but antibodies can also be labeled with an enzyme that supports a color producing reaction with a substrate, such as horseradish peroxidase. Markers can be added to tissue-bound antibody

in a second step, as described below. Alternatively, the specific antitissue antibodies can be labeled with ferritin or other electron dense particles, and localization of the ferritin coupled antigen-antibody complexes achieved by means of an electron microscope. In yet another approach, the antibodies are radiolabeled, with, for example ^{125}I, and detected by overlaying the antibody treated preparation with photographic emulsion.

Preparations to carry out the procedures can comprise monoclonal or polyclonal antibodies to a single protein or peptide identified as specific to a tissue type, for example, brain tissue, or antibody preparations to several antigenically distinct tissue specific antigens can be used in panels, independently or in mixtures, as required.

Tissue sections and cell suspensions are prepared for immunohistochemical examination according to common histological techniques. Multiple cryostat sections (about 4 µm, unfixed) of the unknown tissue and known control, are mounted and each slide covered with different dilutions of the antibody preparation. Sections of known and unknown tissues should also be treated with preparations to provide a positive control, a negative control, for example, pre-immune sera, and a control for non-specific staining, for example, buffer.

Treated sections are incubated in a humid chamber for 30 min at room temperature, rinsed, then washed in buffer for 30-45 min. Excess fluid is blotted away, and the marker developed.

If the tissue specific antibody was not labeled in the first incubation, it can be labeled at this time in a second antibody-antibody reaction, for example, by adding fluorescein- or enzyme-conjugated antibody against the immunoglobulin class of the antiserum-producing species, for example, fluorescein labeled antibody to mouse IgG. Such labeled sera are commercially available.

The antigen found in the tissues by the above procedure can be quantified by measuring the intensity of color or fluorescence on the tissue section, and calibrating that signal using appropriate standards.

2. Identification of Tissue Specific Soluble Proteins

The visualization of tissue specific proteins and identification of unknown tissues from that procedure is carried out using the labeled antibody reagents and detection strategy as described for immunohistochemistry; however the sample is prepared

according to an electrophoretic technique to distribute the proteins extracted from the tissue in an orderly array on the basis of molecular weight for detection.

A tissue sample is homogenized using a Virtis apparatus; cell suspensions are disrupted by Dounce homogenization or osmotic lysis, using detergents in either case as required to disrupt cell membranes, as is the practice in the art. Insoluble cell components such as nuclei, microsomes, and membrane fragments are removed by ultracentrifugation, and the soluble protein-containing fraction concentrated if necessary and reserved for analysis.

A sample of the soluble protein solution is resolved into individual protein species by conventional SDS polyacrylamide electrophoresis as described, for example, by Davis,L. *et al.*, Section **19-2** in: *Basic Methods in Molecular Biology* (P. Leder, ed), Elsevier, New York (1986), the disclosure of which is incorporated herein by reference, using a range of amounts of polyacrylamide in a set of gels to resolve the entire molecular weight range of proteins to be detected in the sample. A size marker is run in parallel for purposes of estimating molecular weights of the constituent proteins. Sample size for analysis is a convenient volume of from 5 to 55 μl, and containing from about 1 to 100 μg protein. An aliquot of each of the resolved proteins is transferred by blotting to a nitrocellulose filter paper, a process that maintains the pattern of resolution. Multiple copies are prepared. The procedure, known as Western Blot Analysis, is well described in Davis, L. *et al.*, *supra* Section 19-3. One set of nitrocellulose blots is stained with Coomassie Blue dye to visualize the entire set of proteins for comparison with the antibody bound proteins. The remaining nitrocellulose filters are then incubated with a solution of one or more specific antisera to tissue specific proteins prepared as described in Examples 20 and 33. In this procedure, as in procedure A above, appropriate positive and negative sample and reagent controls are run.

In either procedure described above a detectable label can be attached to the primary tissue antigen-primary antibody complex according to various strategies and permutations thereof. In a straightforward approach, the primary specific antibody can be labeled; alternatively, the unlabeled complex can be bound by a labeled secondary anti-IgG antibody. In other approaches, either the primary or secondary antibody is conjugated to a biotin molecule, which can, in a subsequent step, bind an avidin conjugated marker.

According to yet another strategy, enzyme labeled or radioactive protein A, which has the property of binding to any IgG, is bound in a final step to either the primary or secondary antibody.

EXAMPLE 49

Immunohistochemical Localization of Polypeptides

The antibodies prepared as described in Examples 20 and 33 above may be utilized to determine the cellular location of a polypeptide. The polypeptide may be any of the polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or the polypeptide may be one of the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides. In some embodiments, the polypeptide may be a chimeric polypeptide such as those encoded by the fusion vectors of Example 47.

Cells expressing the polypeptide to be localized are applied to a microscope slide and fixed using any of the procedures typically employed in immunohistochemical localization techniques, including the methods described in *Current Protocols in Molecular Biology*, John Wiley and Sons, Inc. 1997. Following a washing step, the cells are contacted with the antibody. In some embodiments, the antibody is conjugated to a detectable marker as described above to facilitate detection. Alternatively, in some embodiments, after the cells have been contacted with an antibody to the polypeptide to be localized, a secondary antibody which has been conjugated to a detectable marker is placed in contact with the antibody against the polypeptide to be localized.

Thereafter, microscopy is performed under conditions suitable for visualizing the cellular location of the polypeptide.

The visualization of tissue specific antigen binding at levels above those seen in control tissues to one or more tissue specific antibodies, directed against the polypeptides encoded by EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or antibodies against the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related

polypeptides, can identify tissues of unknown origin, for example, forensic samples, or differentiated tumor tissue that has metastasized to foreign bodily sites.

The antibodies of Example 20 and 33 may also be used in the immunoaffinity chromatography techniques described below to isolate, purify or enrich the polypeptides encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or to isolate, purify or enrich EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides. The immunoaffinity chromatography techniques described below may also be used to isolate, purify or enrich polypeptides which have been linked to the polypeptides encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or to isolate, purify or enrich polypeptides which have been linked to EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides.

EXAMPLE 50

Immunoaffinity Chromatography

Antibodies prepared as described above are coupled to a support. Preferably, the antibodies are monoclonal antibodies, but polyclonal antibodies may also be used. The support may be any of those typically employed in immunoaffinity chromatography, including Sepharose CL-4B (Pharmacia, Piscataway, NJ), Sepharose CL-2B (Pharmacia, Piscataway, NJ), Affi-gel 10 (Biorad, Richmond, CA), or glass beads.

The antibodies may be coupled to the support using any of the coupling reagents typically used in immunoaffinity chromatography, including cyanogen bromide. After coupling the antibody to the support, the support is contacted with a sample which contains a target polypeptide whose isolation, purification or enrichment is desired. The target polypeptide may be a polypeptide encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or the target polypeptide may be one of the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related

polypeptides, or fragments of positional segments of EST-related polypeptides. The target polypeptides may also be polypeptides which have been linked to the polypeptides encoded by the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or the target polypeptides may be polypeptides which have been linked to EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of positional segments of EST-related polypeptides using the fusion vectors described above.

Preferably, the sample is placed in contact with the support for a sufficient amount of time and under appropriate conditions to allow at least 50% of the target polypeptide to specifically bind to the antibody coupled to the support.

Thereafter, the support is washed with an appropriate wash solution to remove polypeptides which have non-specifically adhered to the support. The wash solution may be any of those typically employed in immunoaffinity chromatography, including PBS, Tris-lithium chloride buffer (0.1M lysine base and 0.5M lithium chloride, pH 8.0), Tris-hydrochloride buffer (0.05M Tris-hydrochloride, pH 8.0), or Tris/Triton/NaCl buffer (50mM Tris.cl, pH 8.0 or 9.0, 0.1% Triton X-100, and 0.5MNaCl).

After washing, the specifically bound target polypeptide is eluted from the support using the high pH or low pH elution solutions typically employed in immunoaffinity chromatography. In particular, the elution solutions may contain an eluant such as triethanolamine, diethylamine, calcium chloride, sodium thiocyanate, potasssium bromide, acetic acid, or glycine. In some embodiments, the elution solution may also contain a detergent such as Triton X-100 or octyl-β-D-glucoside.

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may also be used to clone sequences located upstream of the 5'ESTs which are capable of regulating gene expression, including promoter sequences, enhancer sequences, and other upstream sequences which influence transcription or translation levels. Once identified and cloned, these upstream regulatory sequences may be used in expression vectors designed to direct the expression of an inserted gene in a desired spatial, temporal, developmental, or quantitative fashion. Example 51 describes a method for cloning sequences upstream of

the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids.

2. Identification of upstream sequences with promoting or regulatory activities

EXAMPLE 51

Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to Clone Upstream Sequences from Genomic DNA

Sequences derived from EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used to isolate the promoters of the corresponding genes using chromosome walking techniques. In one chromosome walking technique, which utilizes the GenomeWalker□ kit available from Clontech, five complete genomic DNA samples are each digested with a different restriction enzyme which has a 6 base recognition site and leaves a blunt end. Following digestion, oligonucleotide adapters are ligated to each end of the resulting genomic DNA fragments.

For each of the five genomic DNA libraries, a first PCR reaction is performed according to the manufacturer's instructions (which are incorporated herein by reference) using an outer adapter primer provided in the kit and an outer gene specific primer. The gene specific primer should be selected to be specific for 5' EST of interest and should have a melting temperature, length, and location in the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids which is consistent with its use in PCR reactions. Each first PCR reaction contains 5ng of genomic DNA, 5 μl of 10X Tth reaction buffer, 0.2 mM of each dNTP, 0.2 μM each of outer adapter primer and outer gene specific primer, 1.1 mM of $Mg(OAc)_2$, and 1 μl of the Tth polymerase 50X mix in a total volume of 50 μl. The reaction cycle for the first PCR reaction is as follows: 1 min at 94°C / 2 sec at 94°C, 3 min at 72°C (7 cycles) / 2 sec at 94°C, 3 min at 67°C (32 cycles) / 5 min at 67°C.

The product of the first PCR reaction is diluted and used as a template for a second PCR reaction according to the manufacturer's instructions using a pair of nested primers which are located internally on the amplicon resulting from the first PCR

reaction. For example, 5 μl of the reaction product of the first PCR reaction mixture may be diluted 180 times. Reactions are made in a 50 μl volume having a composition identical to that of the first PCR reaction except the nested primers are used. The first nested primer is specific for the adapter, and is provided with the GenomeWalker□ kit. The second nested primer is specific for the particular EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids for which the promoter is to be cloned and should have a melting temperature, length, and location in the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids which is consistent with its use in PCR reactions. The reaction parameters of the second PCR reaction are as follows: 1 min at 94°C / 2 sec at 94°C, 3 min at 72°C (6 cycles) / 2 sec at 94°C, 3 min at 67°C (25 cycles) / 5 min at - 67°C. The product of the second PCR reaction is purified, cloned, and sequenced using standard techniques.

Alternatively, two or more human genomic DNA libraries can be constructed by using two or more restriction enzymes. The digested genomic DNA is cloned into vectors which can be converted into single stranded, circular, or linear DNA. A biotinylated oligonucleotide comprising at least 15 nucleotides from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids sequence is hybridized to the single stranded DNA. Hybrids between the biotinylated oligonucleotide and the single stranded DNA containing the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are isolated as described above. Thereafter, the single stranded DNA containing the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is released from the beads and converted into double stranded DNA using a primer specific for the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids or a primer corresponding to a sequence included in the cloning vector. The resulting double stranded DNA is transformed into bacteria. cDNAs containing the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are identified by colony PCR or colony hybridization.

Once the upstream genomic sequences have been cloned and sequenced as described above, prospective promoters and transcription start sites within the upstream sequences may be identified by comparing the sequences upstream of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids with databases containing known transcription start sites, transcription factor binding sites, or promoter sequences.

In addition, promoters in the upstream sequences may be identified using promoter reporter vectors as described in Example 52.

EXAMPLE 52

Identification of Promoters in Cloned Upstream Sequences

The genomic sequences upstream of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are cloned into a suitable promoter reporter vector, such as the pSEAP-Basic, pSEAP-Enhancer, pβgal-Basic, pβgal-Enhancer, or pEGFP-1 Promoter Reporter vectors available from Clontech. Briefly, each of these promoter reporter vectors include multiple cloning sites positioned upstream of a reporter gene encoding a readily assayable protein such as secreted alkaline phosphatase, β galactosidase, or green fluorescent protein. The sequences upstream of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are inserted into the cloning sites upstream of the reporter gene in both orientations and introduced into an appropriate host cell. The level of reporter protein is assayed and compared to the level obtained from a vector which lacks an insert in the cloning site. The presence of an elevated expression level in the vector containing the insert with respect to the control vector indicates the presence of a promoter in the insert. If necessary, the upstream sequences can be cloned into vectors which contain an enhancer for augmenting transcription levels from weak promoter sequences. A significant level of expression above that observed with the vector lacking an insert indicates that a promoter sequence is present in the inserted upstream sequence.

Appropriate host cells for the promoter reporter vectors may be chosen based on the results of the above described determination of expression patterns of the EST-related

nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. For example, if the expression pattern analysis indicates that the mRNA corresponding to a particular EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids is expressed in fibroblasts, the promoter reporter vector may be introduced into a human fibroblast cell line.

Promoter sequences within the upstream genomic DNA may be further defined by constructing nested deletions in the upstream DNA using conventional techniques such as Exonuclease III digestion. The resulting deletion fragments can be inserted into the promoter reporter vector to determine whether the deletion has reduced or obliterated promoter activity. In this way, the boundaries of the promoters may be defined. If desired, potential individual regulatory sites within the promoter may be identified using site directed mutagenesis or linker scanning to obliterate potential transcription factor binding sites within the promoter individually or in combination. The effects of these mutations on transcription levels may be determined by inserting the mutations into the cloning sites in the promoter reporter vectors.

EXAMPLE 53

Cloning and Identification of Promoters

Using the method described in Example 51 above with 5' ESTs, sequences upstream of several genes were obtained. Using the primer pairs GGG AAG ATG GAG ATA GTA TTG CCT G (SEQ ID NO.15) and CTG CCA TGT ACA TGA TAG AGA GAT TC (SEQ ID NO.16), the promoter having the internal designation P13H2 (SEQ ID NO.17) was obtained.

Using the primer pairs GTA CCA GGGG ACT GTG ACC ATT GC (SEQ ID NO.18) and CTG TGA CCA TTG CTC CCA AGA GAG (SEQ ID NO.19), the promoter having the internal designation P15B4 (SEQ ID NO.20) was obtained.

Using the primer pairs CTG GGA TGG AAG GCA CGG TA (SEQ ID NO.21) and GAG ACC ACA CAG CTA GAC AA (SEQ ID NO.22), the promoter having the internal designation P29B6 (SEQ ID NO.23) was obtained.

Figure 4 provides a schematic description of the promoters isolated and the way they are assembled with the corresponding 5' tags. The upstream sequences were screened for the presence of motifs resembling transcription factor binding sites or known transcription start sites using the computer program MatInspector release 2.0, August 1996.

Figure 5 describes the transcription factor binding sites present in each of these promoters. The columns labeled matrice provides the name of the MatInspector matrix used. The column labeled position provides the 5' position of the promoter site. Numeration of the sequence starts from the transcription site as determined by matching the genomic sequence with the 5' EST sequence. The column labeled "orientation" indicates the DNA strand on which the site is found, with the + strand being the coding strand as determined by matching the genomic sequence with the sequence of the 5' EST. The column labeled "score" provides the MatInspector score found for this site. The column labeled "length" provides the length of the site in nucleotides. The column labeled "sequence" provides the sequence of the site found.

Bacterial clones containing plasmids containing the promoter sequences described above described above are presently stored in the inventor's laboratories under the internal identification numbers provided above. The inserts may be recovered from the deposited materials by growing an aliquot of the appropriate bacterial clone in the appropriate medium. The plasmid DNA can then be isolated using plasmid isolation procedures familiar to those skilled in the art such as alkaline lysis minipreps or large scale alkaline lysis plasmid isolation procedures. If desired the plasmid DNA may be further enriched by centrifugation on a cesium chloride gradient, size exclusion chromatography, or anion exchange chromatography. The plasmid DNA obtained using these procedures may then be manipulated using standard cloning techniques familiar to those skilled in the art. Alternatively, a PCR can be done with primers designed at both ends of the inserted EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. The PCR product which corresponds to the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids can then be manipulated using standard cloning techniques familiar to those skilled in the art.

The promoters and other regulatory sequences located upstream of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used to design expression vectors capable of directing the expression of an inserted gene in a desired spatial, temporal, developmental, or quantitative manner. A promoter capable of directing the desired spatial, temporal, developmental, and quantitative patterns may be selected using the results of the expression analysis described above. For example, if a promoter which confers a high level of expression in muscle is desired, the promoter sequence upstream of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids derived from an mRNA which are expressed at a high level in muscle, as determined by the methods above, may be used in the expression vector.

Preferably, the desired promoter is placed near multiple restriction sites to facilitate the cloning of the desired insert downstream of the promoter, such that the promoter is able to drive expression of the inserted gene. The promoter may be inserted in conventional nucleic acid backbones designed for extrachromosomal replication, integration into the host chromosomes or transient expression. Suitable backbones for the present expression vectors include retroviral backbones, backbones from eukaryotic episomes such as SV40 or Bovine Papilloma Virus, backbones from bacterial episomes, or artificial chromosomes.

Preferably, the expression vectors also include a polyA signal downstream of the multiple restriction sites for directing the polyadenylation of mRNA transcribed from the gene inserted into the expression vector.

Following the identification of promoter sequences using the procedures of Examples 51-53, proteins which interact with the promoter may be identified as described in Example 54 below.

EXAMPLE 54

Identification of Proteins Which Interact with Promoter Sequences, Upstream Regulatory Sequences, or mRNA

Sequences within the promoter region which are likely to bind transcription factors may be identified by homology to known transcription factor binding sites or through conventional mutagenesis or deletion analyses of reporter plasmids containing the promoter sequence. For example, deletions may be made in a reporter plasmid containing the promoter sequence of interest operably linked to an assayable reporter gene. The reporter plasmids carrying various deletions within the promoter region are transfected into an appropriate host cell and the effects of the deletions on expression levels is assessed. Transcription factor binding sites within the regions in which deletions reduce expression levels may be further localized using site directed mutagenesis, linker scanning analysis, or other techniques familiar to those skilled in the art.

Nucleic acids encoding proteins which interact with sequences in the promoter may be identified using one-hybrid systems such as those described in the manual accompanying the Matchmaker One-Hybrid System kit available from Clontech (Catalog No. K1603-1), the disclosure of which is incorporated herein by reference. Briefly, the Matchmaker One-hybrid system is used as follows. The target sequence for which it is desired to identify binding proteins is cloned upstream of a selectable reporter gene and integrated into the yeast genome. Preferably, multiple copies of the target sequences are inserted into the reporter plasmid in tandem. A library comprised of fusions between cDNAs to be evaluated for the ability to bind to the promoter and the activation domain of a yeast transcription factor, such as GAL4, is transformed into the yeast strain containing the integrated reporter sequence. The yeast are plated on selective media to select cells expressing the selectable marker linked to the promoter sequence. The colonies which grow on the selective media contain genes encoding proteins which bind the target sequence. The inserts in the genes encoding the fusion proteins are further characterized by sequencing. In addition, the inserts may be inserted into expression vectors or *in vitro* transcription vectors. Binding of the polypeptides encoded by the inserts to the promoter DNA may be confirmed by techniques familiar to those skilled in the art, such as gel shift analysis or DNAse protection analysis.

VIII. Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids in Gene Therapy

The present invention also comprises the use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids in gene therapy strategies, including antisense and triple helix strategies as described in Examples 55 and 56 below. In antisense approaches, nucleic acid sequences complementary to an mRNA are hybridized to the mRNA intracellularly, thereby blocking the expression of the protein encoded by the mRNA. The antisense sequences may prevent gene expression through a variety of mechanisms. For example, the antisense sequences may inhibit the ability of ribosomes to translate the mRNA. Alternatively, the antisense sequences may block transport of the mRNA from the nucleus to the cytoplasm, thereby limiting the amount of mRNA available for translation. Another mechanism through which antisense sequences may inhibit gene expression is by interfering with mRNA splicing. In yet another strategy, the antisense nucleic acid may be incorporated in a ribozyme capable of specifically cleaving the target mRNA.

EXAMPLE 55

Preparation and Use of Antisense Oligonucleotides

The antisense nucleic acid molecules to be used in gene therapy may be either DNA or RNA sequences. They may comprise a sequence complementary to the sequence of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids. The antisense nucleic acids should have a length and melting temperature sufficient to permit formation of an intracellular duplex with sufficient stability to inhibit the expression of the mRNA in the duplex. Strategies for designing antisense nucleic acids suitable for use in gene therapy are disclosed in Green *et al.*, *Ann. Rev. Biochem.* **55**:569-597 (1986) and Izant and Weintraub, *Cell* **36**:1007-1015 (1984), which are hereby incorporated by reference.

In some strategies, antisense molecules are obtained from a nucleotide sequence encoding a protein by reversing the orientation of the coding region with respect to a

promoter so as to transcribe the opposite strand from that which is normally transcribed in the cell. The antisense molecules may be transcribed using *in vitro* transcription systems such as those which employ T7 or SP6 polymerase to generate the transcript. Another approach involves transcription of the antisense nucleic acids *in vivo* by operably linking DNA containing the antisense sequence to a promoter in an expression vector.

Alternatively, oligonucleotides which are complementary to the strand normally transcribed in the cell may be synthesized *in vitro*. Thus, the antisense nucleic acids are complementary to the corresponding mRNA and are capable of hybridizing to the mRNA to create a duplex. In some embodiments, the antisense sequences may contain modified sugar phosphate backbones to increase stability and make them less sensitive to RNase activity. Examples of modifications suitable for use in antisense strategies are described by Rossi *et al.*, *Pharmacol. Ther.* **50(2)**:245-254, (1991) which is hereby incorporated by reference.

Various types of antisense oligonucleotides complementary to the sequence of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may be used. In one preferred embodiment, stable and semi-stable antisense oligonucleotides described in International Application No. PCT WO94/23026, hereby incorporated by reference, are used. In these molecules, the 3' end or both the 3' and 5' ends are engaged in intramolecular hydrogen bonding between complementary base pairs. These molecules are better able to withstand exonuclease attacks and exhibit increased stability compared to conventional antisense oligonucleotides.

In another preferred embodiment, the antisense oligodeoxynucleotides against herpes simplex virus types 1 and 2 described in International Application No. WO 95/04141, hereby incorporated by reference, are used.

In yet another preferred embodiment, the covalently cross-linked antisense oligonucleotides described in International Application No. WO 96/31523, hereby incorporated by reference, are used. These double- or single-stranded oligonucleotides comprise one or more, respectively, inter- or intra-oligonucleotide covalent cross-linkages, wherein the linkage consists of an amide bond between a primary amine group of one strand and a carboxyl group of the other strand or of the same strand, respectively, the

primary amine group being directly substituted in the 2' position of the strand nucleotide monosaccharide ring, and the carboxyl group being carried by an aliphatic spacer group substituted on a nucleotide or nucleotide analog of the other strand or the same strand, respectively.

The antisense oligodeoxynucleotides and oligonucleotides disclosed in International Application No. WO 92/18522, incorporated by reference, may also be used. These molecules are stable to degradation and contain at least one transcription control recognition sequence which binds to control proteins and are effective as decoys therefor. These molecules may contain "hairpin" structures, "dumbbell" structures, "modified dumbbell" structures, "cross-linked" decoy structures and "loop" structures.

In another preferred embodiment, the cyclic double-stranded oligonucleotides described in European Patent Application No. 0 572 287 A2, hereby incorporated by reference are used. These ligated oligonucleotide "dumbbells" contain the binding site for a transcription factor and inhibit expression of the gene under control of the transcription factor by sequestering the factor.

Use of the closed antisense oligonucleotides disclosed in International Application No. WO 92/19732, hereby incorporated by reference, is also contemplated. Because these molecules have no free ends, they are more resistant to degradation by exonucleases than are conventional oligonucleotides. These oligonucleotides may be multifunctional, interacting with several regions which are not adjacent to the target mRNA.

The appropriate level of antisense nucleic acids required to inhibit gene expression may be determined using *in vitro* expression analysis. The antisense molecule may be introduced into the cells by diffusion, injection, infection or transfection using procedures known in the art. For example, the antisense nucleic acids can be introduced into the body as a bare or naked oligonucleotide, oligonucleotide encapsulated in lipid, oligonucleotide sequence encapsidated by viral protein, or as an oligonucleotide operably linked to a promoter contained in an expression vector. The expression vector may be any of a variety of expression vectors known in the art, including retroviral or viral vectors, vectors capable of extrachromosomal replication, or integrating vectors. The vectors may be DNA or RNA.

The antisense molecules are introduced onto cell samples at a number of different concentrations preferably between $1x10^{-10}M$ to $1x10^{-4}M$. Once the minimum concentration that can adequately control gene expression is identified, the optimized dose is translated into a dosage suitable for use *in vivo*. For example, an inhibiting concentration in culture of $1x10^{-7}$ translates into a dose of approximately 0.6 mg/kg bodyweight. Levels of oligonucleotide approaching 100 mg/kg bodyweight or higher may be possible after testing the toxicity of the oligonucleotide in laboratory animals. It is additionally contemplated that cells from the vertebrate are removed, treated with the antisense oligonucleotide, and reintroduced into the vertebrate.

It is further contemplated that the antisense oligonucleotide sequence is incorporated into a ribozyme sequence to enable the antisense to specifically bind and cleave its target mRNA. For technical applications of ribozyme and antisense oligonucleotides see Rossi *et al.*, *supra*.

In a preferred application of this invention, the polypeptide encoded by the gene is first identified, so that the effectiveness of antisense inhibition on translation can be monitored using techniques that include but are not limited to antibody-mediated tests such as RIAs and ELISA, functional assays, or radiolabeling.

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may also be used in gene therapy approaches based on intracellular triple helix formation. Triple helix oligonucleotides are used to inhibit transcription from a genome. They are particularly useful for studying alterations in cell activity as it is associated with a particular gene. The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids of the present invention or, more preferably, a portion of those sequences, can be used to inhibit gene expression in individuals having diseases associated with expression of a particular gene. Similarly, the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids can be used to study the effect of inhibiting transcription of a particular gene within a cell. Traditionally, homopurine sequences were considered the most useful for triple helix strategies. However, homopyrimidine sequences can also inhibit gene expression. Such homopyrimidine

oligonucleotides bind to the major groove at homopurine:homopyrimidine sequences. Thus, both types of sequences from the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are contemplated within the scope of this invention.

EXAMPLE 56

Preparation and use of Triple Helix Probes

The sequences of the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are scanned to identify 10-mer to 20-mer homopyrimidine or homopurine stretches which could be used in triple-helix based strategies for inhibiting gene expression. Following identification of candidate homopyrimidine or homopurine stretches, their efficiency in inhibiting gene expression is assessed by introducing varying amounts of oligonucleotides containing the candidate sequences into tissue culture cells which normally express the target gene. The oligonucleotides may be prepared on an oligonucleotide synthesizer or they may be purchased commercially from a company specializing in custom oligonucleotide synthesis, such as GENSET, Paris, France.

The oligonucleotides may be introduced into the cells using a variety of methods known to those skilled in the art, including but not limited to calcium phosphate precipitation, DEAE-Dextran, electroporation, liposome-mediated transfection or native uptake.

Treated cells are monitored for altered cell function or reduced gene expression using techniques such as Northern blotting, RNase protection assays, or PCR based strategies to monitor the transcription levels of the target gene in cells which have been treated with the oligonucleotide. The cell functions to be monitored are predicted based upon the homologies of the target genes corresponding to the EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids from which the oligonucleotide were derived with known gene sequences that have been associated with a particular function. The cell functions can also be predicted based on the presence of abnormal physiologies within cells derived from individuals with a particular inherited disease, particularly when the EST-related nucleic

acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids are associated with the disease using techniques described herein.

The oligonucleotides which are effective in inhibiting gene expression in tissue culture cells may then be introduced *in vivo* using the techniques described above and in Example 55 at a dosage calculated based on the *in vitro* results, as described in Example 55.

In some embodiments, the natural (beta) anomers of the oligonucleotide units can be replaced with alpha anomers to render the oligonucleotide more resistant to nucleases. Further, an intercalating agent such as ethidium bromide, or the like, can be attached to the 3' end of the alpha oligonucleotide to stabilize the triple helix. For information on the generation of oligonucleotides suitable for triple helix formation see Griffin *et al.* (*Science* **245**:967-971 (1989), which is hereby incorporated by this reference).

EXAMPLE 57

Use of EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids to express an Encoded Protein in a Host Organism

The EST-related nucleic acids, positional segments of EST-related nucleic acids or fragments of positional segments of EST-related nucleic acids may also be used to express an encoded protein or polypeptide in a host organism to produce a beneficial effect. In addition, nucleic acids encoding the EST-related polypeptides, positional segments of EST-related polypeptides or fragments of positional segments of EST-related polypeptides may be used to express the encoded protein or polypeptide in a host organism to produce a beneficial effect.

In such procedures, the encoded protein or polypeptide may be transiently expressed in the host organism or stably expressed in the host organism. The encoded protein or polypeptide may have any of the activities described above. The encoded protein or polypeptide may be a protein or polypeptide which the host organism lacks or, alternatively, the encoded protein may augment the existing levels of the protein in the host organism.

In some embodiments in which the protein or polypeptide is secreted, nucleic acids encoding the full length protein (i.e. the signal peptide and the mature protein), or nucleic acids encoding only the mature protein (i.e. the protein generated when the signal peptide is cleaved off) is introduced into the host organism.

The nucleic acids encoding the proteins or polypeptides may be introduced into the host organism using a variety of techniques known to those of skill in the art. For example, the extended cDNA may be injected into the host organism as naked DNA such that the encoded protein is expressed in the host organism, thereby producing a beneficial effect.

Alternatively, the nucleic acids encoding the protein or polypeptide may be cloned into an expression vector downstream of a promoter which is active in the host organism. The expression vector may be any of the expression vectors designed for use in gene therapy, including viral or retroviral vectors. The expression vector may be directly introduced into the host organism such that the encoded protein is expressed in the host organism to produce a beneficial effect. In another approach, the expression vector may be introduced into cells *in vitro*. Cells containing the expression vector are thereafter selected and introduced into the host organism, where they express the encoded protein or polypeptide to produce a beneficial effect.

EXAMPLE 58

Use of Signal Peptides To Import Proteins Into Cells

The short core hydrophobic region (h) of signal peptides encoded by the sequences of SEQ ID NOs. 24-383 and 1339-2059 may also be used as a carrier to import a peptide or a protein of interest, so-called cargo, into tissue culture cells (Lin *et al., J. Biol. Chem.*, 270: 14225-14258 (1995); Du *et al., J. Peptide Res.,* 51: 235-243 (1998); Rojas *et al., Nature Biotech.*, 16: 370-375 (1998)).

When cell permeable peptides of limited size (approximately up to 25 amino acids) are to be translocated across cell membrane, chemical synthesis may be used in order to add the h region to either the C-terminus or the N-terminus to the cargo peptide of interest. Alternatively, when longer peptides or proteins are to be imported into cells, nucleic acids can be genetically engineered, using techniques familiar to those skilled in

the art, in order to link the extended cDNA sequence encoding the h region to the 5' or the 3' end of a DNA sequence coding for a cargo polypeptide. Such genetically engineered nucleic acids are then translated either *in vitro* or *in vivo* after transfection into appropriate cells, using conventional techniques to produce the resulting cell permeable polypeptide. Suitable hosts cells are then simply incubated with the cell permeable polypeptide which is then translocated across the membrane.

This method may be applied to study diverse intracellular functions and cellular processes. For instance, it has been used to probe functionally relevant domains of intracellular proteins and to examine protein-protein interactions involved in signal transduction pathways (Lin *et al., supra*; Lin *et al., J. Biol. Chem.*, 271: 5305-5308 (1996); Rojas *et al., J. Biol. Chem.,* 271: 27456-27461 (1996); Liu *et al., Proc. Natl. Acad. Sci. USA*, 93: 11819-11824 (1996); Rojas *et al., Bioch. Biophys. Res. Commun.,* 234: 675-680 (1997)).

Such techniques may be used in cellular therapy to import proteins producing therapeutic effects. For instance, cells isolated from a patient may be treated with imported therapeutic proteins and then re-introduced into the host organism.

Alternatively, the h region of signal peptides of the present invention could be used in combination with a nuclear localization signal to deliver nucleic acids into cell nucleus. Such oligonucleotides may be antisense oligonucleotides or oligonucleotides designed to form triple helixes, as describedabove, in order to inhibit processing and maturation of a target cellular RNA.

EXAMPLE 59

Computer Embodiments

As used herein the term "cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335" encompasses the nucleotide sequences of SEQ ID NOs. 24-3883 and 7744-19335, fragments of SEQ ID NOs. 24-3883 and 7744-19335, nucleotide sequences homologous to SEQ ID NOs. 24-3883 and 7744-19335 or homologous to fragments of SEQ ID NOs. 24-3883 and 7744-19335, and sequences complementary to all of the preceding sequences. The fragments include fragments of SEQ ID NOs. 24-3883 and 7744-19335 comprising at least 8, 10, 12, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150,

200, 300, 400, 500, 1000 or 2000 consecutive nucleotides of SEQ ID NOs. 24-3883 and 7744-19335. Preferably, the fragments are novel fragments. Preferably the fragments include polynucleotides described in Tables IVa and IVb, polynucleotides described in Tables IVa and IVb updated, or fragments thereof comprising at least 8, 10, 12, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400, 500, 1000 or 2000 consecutive nucleotides of the polynucleotides described in Tables IVa and IVb, or polynucleotides described in Tables IVa and IVb updated. Homologous sequences and fragments of SEQ ID NOs. 24-3883 and 7744-19335 refer to a sequence having at least 99%, 98%, 97%, 96%, 95%, 90%, 85%, 80%, or 75% homology to these sequences. Homology may be determined using any of the computer programs and parameters described in Example 17, including BLAST2N with the default parameters or with any modified parameters. Homologous sequences also include RNA sequences in which uridines replace the thymines in the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335. The homologous sequences may be obtained using any of the procedures described herein or may result from the correction of a sequencing error as described above. Preferably the homologous sequences and fragments of SEQ ID NOs. 24-3883 and 7744-19335 include polynucleotides described in Tables IVa and IVb, polynucleotides described in Tables IVa and IVb updated, or fragments comprising at least 8, 10, 12, 15, 18, 20, 25, 28, 30, 35, 40, 50, 75, 100, 150, 200, 300, 400, 500, 1000 or 2000 consecutive nucleotides of the polynucleotides described in Tables IVa and IVb, or polynucleotides described in Tables IVa and IVb updated. It will be appreciated that the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 can be represented in the traditional single character format (See the inside back cover of Styer, Lubert. *Biochemistry*, 3rd edition. W. H Freeman & Co., New York.) or in any other format which records the identity of the nucleotides in a sequence.

As used herein the term "polypeptide codes of SEQ ID NOS. 3884-7743" encompasses the polypeptide sequence of SEQ ID NOs. 3884-7743 which are encoded by the cDNAs of SEQ ID NOs. 24-3883, polypeptide sequences homologous to the polypeptides of SEQ ID NOS. 3884-7743, or fragments of any of the preceding sequences. Homologous polypeptide sequences refer to a polypeptide sequence having at least 99%, 98%, 97%, 96%, 95%, 90%, 85%, 80%, 75% homology to one of the

polypeptide sequences of SEQ ID NOS. 3884-7743. Homology may be determined using any of the computer programs and parameters described herein, including FASTA with the default parameters or with any modified parameters. The homologous sequences may be obtained using any of the procedures described herein or may result from the correction of a sequencing error as described above. The polypeptide fragments comprise at least 5, 8, 10, 12, 15, 20, 25, 30, 35, 40, 50, 60, 75, 100, 150 or 200 consecutive amino acids of the polypeptides of SEQ ID NOS. 3884-7743. Preferably, the fragments are novel fragments. Preferably, the fragments include polypeptides encoded by the polynucleotides described in Tables IVa and IVb, polynucleotides described in Tables IVa and IVb updated, or fragments thereof comprising at least 5, 10, 15, 20, 25, 30, 35, 40, 50, 75, 100, or 150 consecutive amino acids of the polypeptides encoded by the polynucleotides described in Tables IVa and IVb, or polynucleotides described in Tables IVa and IVb updated. It will be appreciated that the polypeptide codes of the SEQ ID NOS. 3884-7743 can be represented in the traditional single character format or three letter format (See the inside back cover of Starrier, Lubert. *Biochemistry*, 3rd edition. W. H Freeman & Co., New York.) or in any other format which relates the identity of the polypeptides in a sequence.

It will be appreciated by those skilled in the art that the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 and polypeptide codes of SEQ ID NOS. 3884-7743 can be stored, recorded, and manipulated on any medium which can be read and accessed by a computer. As used herein, the words "recorded" and "stored" refer to a process for storing information on a computer medium. A skilled artisan can readily adopt any of the presently known methods for recording information on a computer readable medium to generate manufactures comprising one or more of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335, one or more of the polypeptide codes of SEQ ID NOS. 3884-7743. Another aspect of the present invention is a computer readable medium having recorded thereon at least 2, 5, 10, 15, 20, 25, 30, or 50 cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335. Another aspect of the present invention is a computer readable medium having recorded thereon at least 2, 5, 10, 15, 20, 25, 30, or 50 polypeptide codes of SEQ ID NOS. 3884-7743.

Computer readable media include magnetically readable media, optically readable media, electronically readable media and magnetic/optical media. For example, the

computer readable media may be a hard disk, a floppy disk, a magnetic tape, CD-ROM, Digital Versatile Disk (DVD), Random Access Memory (RAM), or Read Only Memory (ROM) as well as other types of other media known to those skilled in the art.

Embodiments of the present invention include systems, particularly computer systems which store and manipulate the sequence information described herein. One example of a computer system 100 is illustrated in block diagram form in Figure 6. As used herein, "a computer system" refers to the hardware components, software components, and data storage components used to analyze the nucleotide sequences of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335, or the amino acid sequences of the polypeptide codes of SEQ ID NOS. 3884-7743. In one embodiment, the computer system 100 is a Sun Enterprise 1000 server (Sun Microsystems, Palo Alto, CA). The computer system 100 preferably includes a processor for processing, accessing and manipulating the sequence data. The processor 105 can be any well-known type of central processing unit, such as the Pentium III from Intel Corporation, or similar processor from Sun, Motorola, Compaq or International Business Machines.

Preferably, the computer system 100 is a general purpose system that comprises the processor 105 and one or more internal data storage components 110 for storing data, and one or more data retrieving devices for retrieving the data stored on the data storage components. A skilled artisan can readily appreciate that any one of the currently available computer systems are suitable.

In one particular embodiment, the computer system 100 includes a processor 105 connected to a bus which is connected to a main memory 115 (preferably implemented as RAM) and one or more internal data storage devices 110, such as a hard drive and/or other computer readable media having data recorded thereon. In some embodiments, the computer system 100 further includes one or more data retrieving device 118 for reading the data stored on the internal data storage devices 110.

The data retrieving device 118 may represent, for example, a floppy disk drive, a compact disk drive, a magnetic tape drive, etc. In some embodiments, the internal data storage device 110 is a removable computer readable medium such as a floppy disk, a compact disk, a magnetic tape, etc. containing control logic and/or data recorded thereon. The computer system 100 may advantageously include or be programmed by appropriate

software for reading the control logic and/or the data from the data storage component once inserted in the data retrieving device.

The computer system 100 includes a display 120 which is used to display output to a computer user. It should also be noted that the computer system 100 can be linked to other computer systems 125a-c in a network or wide area network to provide centralized access to the computer system 100.

Software for accessing and processing the nucleotide sequences of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335, or the amino acid sequences of the polypeptide codes of SEQ ID NOS. 3884-7743 (such as search tools, compare tools, and modeling tools etc.) may reside in main memory 115 during execution.

In some embodiments, the computer system 100 may further comprise a sequence comparer for comparing the above-described cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or polypeptide codes of SEQ ID NOS. 3884-7743 stored on a computer readable medium to reference nucleotide or polypeptide sequences stored on a computer readable medium. A "sequence comparer" refers to one or more programs which are implemented on the computer system 100 to compare a nucleotide or polypeptide sequence with other nucleotide or polypeptide sequences and/or compounds including but not limited to peptides, peptidomimetics, and chemicals stored within the data storage means. For example, the sequence comparer may compare the nucleotide sequences of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335, or the amino acid sequences of the polypeptide codes of SEQ ID NOS. 3884-7743 stored on a computer readable medium to reference sequences stored on a computer readable medium to identify homologies, motifs implicated in biological function, or structural motifs. The various sequence comparer programs identified elsewhere in this patent specification are particularly contemplated for use in this aspect of the invention.

Figure 7 is a flow diagram illustrating one embodiment of a process 200 for comparing a new nucleotide or protein sequence with a database of sequences in order to determine the homology levels between the new sequence and the sequences in the database. The database of sequences can be a private database stored within the computer system 100, or a public database such as GENBANK, PIR or SWISSPROT that is available through the Internet.

The process 200 begins at a start state 201 and then moves to a state 202 wherein the new sequence to be compared is stored to a memory in a computer system 100. As discussed above, the memory could be any type of memory, including RAM or an internal storage device.

The process 200 then moves to a state 204 wherein a database of sequences is opened for analysis and comparison. The process 200 then moves to a state 206 wherein the first sequence stored in the database is read into a memory on the computer. A comparison is then performed at a state 210 to determine if the first sequence is the same as the second sequence. It is important to note that this step is not limited to performing an exact comparison between the new sequence and the first sequence in the database. Well-known methods are known to those of skill in the art for comparing two nucleotide or protein sequences, even if they are not identical. For example, gaps can be introduced into one sequence in order to raise the homology level between the two tested sequences. The parameters that control whether gaps or other features are introduced into a sequence during comparison are normally entered by the user of the computer system.

Once a comparison of the two sequences has been performed at the state 210, a determination is made at a decision state 210 whether the two sequences are the same. Of course, the term "same" is not limited to sequences that are absolutely identical. Sequences that are within the homology parameters entered by the user will be marked as "same" in the process 200.

If a determination is made that the two sequences are the same, the process 200 moves to a state 214 wherein the name of the sequence from the database is displayed to the user. This state notifies the user that the sequence with the displayed name fulfills the homology constraints that were entered. Once the name of the stored sequence is displayed to the user, the process 200 moves to a decision state 218 wherein a determination is made whether more sequences exist in the database. If no more sequences exist in the database, then the process 200 terminates at an end state 220. However, if more sequences do exist in the database, then the process 200 moves to a state 224 wherein a pointer is moved to the next sequence in the database so that it can be compared to the new sequence. In this manner, the new sequence is aligned and compared with every sequence in the database.

It should be noted that if a determination had been made at the decision state 212 that the sequences were not homologous, then the process 200 would move immediately to the decision state 218 in order to determine if any other sequences were available in the database for comparison.

Accordingly, one aspect of the present invention is a computer system comprising a processor, a data storage device having stored thereon a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 or a polypeptide code of SEQ ID NOS. 3884-7743, a data storage device having retrievably stored thereon reference nucleotide sequences or polypeptide sequences to be compared to the nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 or polypeptide code of SEQ ID NOS. 3884-7743 and a sequence comparer for conducting the comparison. The sequence comparer may indicate a homology level between the sequences compared or identify structural motifs in the above described nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 and polypeptide codes of SEQ ID NOS. 3884-7743 or it may identify structural motifs in sequences which are compared to these cDNA codes and polypeptide codes. In some embodiments, the data storage device may have stored thereon the sequences of at least 2, 5, 10, 15, 20, 25, 30, or 50 of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or polypeptide codes of SEQ ID NOS. 3884-7743.

Another aspect of the present invention is a method for determining the level of homology between a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 and a reference nucleotide sequence, comprising the steps of reading the nucleic acid code and the reference nucleotide sequence through the use of a computer program which determines homology levels and determining homology between the nucleic acid code and the reference nucleotide sequence with the computer program. The computer program may be any of a number of computer programs for determining homology levels, including those specifically enumerated herein, including BLAST2N with the default parameters or with any modified parameters. The method may be implemented using the computer systems described above. The method may also be performed by reading 2, 5, 10, 15, 20, 25, 30, or 50 of the above described cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 through use of the computer program and determining homology between the cDNA codes and reference nucleotide sequences .

Figure 8 is a flow diagram illustrating one embodiment of a process 250 in a computer for determining whether two sequences are homologous. The process 250 begins at a start state 252 and then moves to a state 254 wherein a first sequence to be compared is stored to a memory. The second sequence to be compared is then stored to a memory at a state 256. The process 250 then moves to a state 260 wherein the first character in the first sequence is read and then to a state 262 wherein the first character of the second sequence is read. It should be understood that if the sequence is a nucleotide sequence, then the character would normally be either A, T, C, G or U. If the sequence is a protein sequence, then it should be in the single letter amino acid code so that the first and sequence sequences can be easily compared.

A determination is then made at a decision state 264 whether the two characters are the same. If they are the same, then the process 250 moves to a state 268 wherein the next characters in the first and second sequences are read. A determination is then made whether the next characters are the same. If they are, then the process 250 continues this loop until two characters are not the same. If a determination is made that the next two characters are not the same, the process 250 moves to a decision state 274 to determine whether there are any more characters either sequence to read.

If there aren't any more characters to read, then the process 250 moves to a state 276 wherein the level of homology between the first and second sequences is displayed to the user. The level of homology is determined by calculating the profragment of characters between the sequences that were the same out of the total number of sequences in the first sequence. Thus, if every character in a first 100 nucleotide sequence aligned with a every character in a second sequence, the homology level would be 100%.

Alternatively, the computer program may be a computer program which compares the nucleotide sequences of the cDNA codes of the present invention, to reference nucleotide sequences in order to determine whether the nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 differs from a reference nucleic acid sequence at one or more positions. Optionally such a program records the length and identity of inserted, deleted or substituted nucleotides with respect to the sequence of either the reference polynucleotide or the nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335. In one embodiment,

the computer program may be a program which determines whether the nucleotide sequences of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 contain a biallelic marker or single nucleotide polymorphism (SNP) with respect to a reference nucleotide sequence. This single nucleotide polymorphism may comprise a single base substitution, insertion, or deletion, while this biallelic marker may comprise about one to ten consecutive bases substituted, inserted or deleted.

Another aspect of the present invention is a method for determining the level of homology between a polypeptide code of SEQ ID NOS. 3884-7743 and a reference polypeptide sequence, comprising the steps of reading the polypeptide code of SEQ ID NOS. 3884-7743 and the reference polypeptide sequence through use of a computer program which determines homology levels and determining homology between the polypeptide code and the reference polypeptide sequence using the computer program.

Accordingly, another aspect of the present invention is a method for determining whether a nucleic acid code of SEQ ID NOs. 24-3883 and 7744-19335 differs at one or more nucleotides from a reference nucleotide sequence comprising the steps of reading the nucleic acid code and the reference nucleotide sequence through use of a computer program which identifies differences between nucleic acid sequences and identifying differences between the nucleic acid code and the reference nucleotide sequence with the computer program. In some embodiments, the computer program is a program which identifies single nucleotide polymorphisms. The method may be implemented by the computer systems described above and the method illustrated in Figure 8. The method may also be performed by reading at least 2, 5, 10, 15, 20, 25, 30, or 50 of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 and the reference nucleotide sequences through the use of the computer program and identifying differences between the cDNA codes and the reference nucleotide sequences with the computer program.

In other embodiments the computer based system may further comprise an identifier for identifying features within the nucleotide sequences of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the amino acid sequences of the polypeptide codes of SEQ ID NOS. 3884-7743.

An "identifier" refers to one or more programs which identifies certain features within the above-described nucleotide sequences of the cDNA codes of SEQ ID NOs.

24-3883 and 7744-19335 or the amino acid sequences of the polypeptide codes of SEQ ID NOS. 3884-7743. In one embodiment, the identifier may comprise a program which identifies an open reading frame in the cDNAs codes of SEQ ID NOs. 24-3883 and 7744-19335.

Figure 9 is a flow diagram illustrating one embodiment of an identifier process 300 for detecting the presence of a feature in a sequence. The process 300 begins at a start state 302 and then moves to a state 304 wherein a first sequence that is to be checked for features is stored to a memory 115 in the computer system 100. The process 300 then moves to a state 306 wherein a database of sequence features is opened. Such a database would include a list of each feature's attributes along with the name of the feature. For example, a feature name could be "Initiation Codon" and the attribute would be "ATG". Another example would be the feature name "TAATAA Box" and the feature attribute would be "TAATAA". An example of such a database is produced by the University of Wisconsin Genetics Computer Group (see Worldwide Website: gcg.com).

Once the database of features is opened at the state 306, the process 300 moves to a state 308 wherein the first feature is read from the database. A comparison of the attribute of the first feature with the first sequence is then made at a state 310. A determination is then made at a decision state 316 whether the attribute of the feature was found in the first sequence. If the attribute was found, then the process 300 moves to a state 318 wherein the name of the found feature is displayed to the user.

The process 300 then moves to a decision state 320 wherein a determination is made whether move features exist in the database. If no more features do exist, then the process 300 terminates at an end state 324. However, if more features do exist in the database, then the process 300 reads the next sequence feature at a state 326 and loops back to the state 310 wherein the attribute of the next feature is compared against the first sequence.

It should be noted, that if the feature attribute is not found in the first sequence at the decision state 316, the process 300 moves directly to the decision state 320 in order to determine if any more features exist in the database.

In another embodiment, the identifier may comprise a molecular modeling program which determines the 3-dimensional structure of the polypeptides codes of SEQ ID NOS. 3884-7743. In some embodiments, the molecular modeling program identifies target sequences that are most compatible with profiles representing the structural environments of the residues in known three-dimensional protein structures. (See, e.g., Eisenberg *et al.*, U.S. Patent No. 5,436,850 issued July 25, 1995). In another technique, the known three-dimensional structures of proteins in a given family are superimposed to define the structurally conserved regions in that family. This protein modeling technique also uses the known three-dimensional structure of a homologous protein to approximate the structure of the polypeptide codes of SEQ ID NOS. 3884-7743. (See e.g., Srinivasan, *et al.*, U.S. Patent No. 5,557,535 issued September 17, 1996). Conventional homology modeling techniques have been used routinely to build models of proteases and antibodies. (Sowdhamini *et al.*, Protein Engineering 10:207, 215 (1997)). Comparative approaches can also be used to develop three-dimensional protein models when the protein of interest has poor sequence identity to template proteins. In some cases, proteins fold into similar three-dimensional structures despite having very weak sequence identities. For example, the three-dimensional structures of a number of helical cytokines fold in similar three-dimensional topology in spite of weak sequence homology.

The recent development of threading methods now enables the identification of likely folding patterns in a number of situations where the structural relatedness between target and template(s) is not detectable at the sequence level. Hybrid methods, in which fold recognition is performed using Multiple Sequence Threading (MST), structural equivalencies are deduced from the threading output using a distance geometry program DRAGON to construct a low resolution model, and a full-atom representation is constructed using a molecular modeling package such as QUANTA.

According to this 3-step approach, candidate templates are first identified by using the novel fold recognition algorithm MST, which is capable of performing simultaneous threading of multiple aligned sequences onto one or more 3-D structures. In a second step, the structural equivalencies obtained from the MST output are converted into inter-residue distance restraints and fed into the distance geometry

program DRAGON, together with auxiliary information obtained from secondary structure predictions. The program combines the restraints in an unbiased manner and rapidly generates a large number of low resolution model confirmations. In a third step, these low resolution model confirmations are converted into full-atom models and subjected to energy minimization using the molecular modeling package QUANTA. (See e.g., Aszódi *et al.*, Proteins:Structure, Function, and Genetics, Supplement 1:38-42 (1997)).

The results of the molecular modeling analysis may then be used in rational drug design techniques to identify agents which modulate the activity of the polypeptide codes of SEQ ID NOS. 3884-7743.

Accordingly, another aspect of the present invention is a method of identifying a feature within the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743 comprising reading the nucleic acid code(s) or the polypeptide code(s) through the use of a computer program which identifies features therein and identifying features within the nucleic acid code(s) or polypeptide code(s) with the computer program. In one embodiment, computer program comprises a computer program which identifies open reading frames. In a further embodiment, the computer program identifies structural motifs in a polypeptide sequence. In another embodiment, the computer program comprises a molecular modeling program. The method may be performed by reading a single sequence or at least 2, 5, 10, 15, 20, 25, 30, or 50 of the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743 through the use of the computer program and identifying features within the cDNA codes or polypeptide codes with the computer program.

The cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743 may be stored and manipulated in a variety of data processor programs in a variety of formats. For example, the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743 may be stored as text in a word processing file, such as MicrosoftWORD or WORDPERFECT or as an ASCII file in a variety of database programs familiar to those of skill in the art, such as DB2, SYBASE, or ORACLE. In addition, many computer

programs and databases may be used as sequence comparers, identifiers, or sources of reference nucleotide or polypeptide sequences to be compared to the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743. The following list is intended not to limit the invention but to provide guidance to programs and databases which are useful with the cDNA codes of SEQ ID NOs. 24-3883 and 7744-19335 or the polypeptide codes of SEQ ID NOS. 3884-7743. The programs and databases which may be used include, but are not limited to: MacPattern (EMBL), DiscoveryBase (Molecular Applications Group), GeneMine (Molecular Applications Group), Look (Molecular Applications Group), MacLook (Molecular Applications Group), BLAST and BLAST2 (NCBI), BLASTN and BLASTX (Altschul et al, *J. Mol. Biol.* 215: 403 (1990)), FASTA (Pearson and Lipman, *Proc. Natl. Acad. Sci. USA,* 85: 2444 (1988)), FASTDB (Brutlag *et al.* Comp. App. Biosci. 6:237-245, 1990), Catalyst (Molecular Simulations Inc.), Catalyst/SHAPE (Molecular Simulations Inc.), Cerius^2.DBAccess (Molecular Simulations Inc.), HypoGen (Molecular Simulations Inc.), Insight II, (Molecular Simulations Inc.), Discover (Molecular Simulations Inc.), CHARMm (Molecular Simulations Inc.), Felix (Molecular Simulations Inc.), DelPhi, (Molecular Simulations Inc.), QuanteMM, (Molecular Simulations Inc.), Homology (Molecular Simulations Inc.), Modeler (Molecular Simulations Inc.), ISIS (Molecular Simulations Inc.), Quanta/Protein Design (Molecular Simulations Inc.), WebLab (Molecular Simulations Inc.), WebLab Diversity Explorer (Molecular Simulations Inc.), Gene Explorer (Molecular Simulations Inc.), SeqFold (Molecular Simulations Inc.), the EMBL/Swissprotein database, the MDL Available Chemicals Directory database, the MDL Drug Data Report data base, the Comprehensive Medicinal Chemistry database, Derwents's World Drug Index database, the BioByteMasterFile database, the Genbank database, and the Genseqn database. Many other programs and data bases would be apparent to one of skill in the art given the present disclosure.

Motifs which may be detected using the above programs include sequences encoding leucine zippers, helix-turn-helix motifs, glycosylation sites, ubiquitination sites, alpha helices, and beta sheets, signal sequences encoding signal peptides which direct the secretion of the encoded proteins, sequences implicated in transcription

regulation such as homeoboxes, acidic stretches, enzymatic active sites, substrate binding sites, and enzymatic cleavage sites.

EXAMPLE 60

Methods of Making Nucleic Acids

The present invention also comprises methods of making the EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of the EST-related nucleic acids, or fragments of positional segments of the EST-related nucleic acids. The methods comprise sequentially linking together nucleotides to produce the nucleic acids having the preceding sequences. A variety of methods of synthesizing nucleic acids are known to those skilled in the art.

In many of these methods, synthesis is conducted on a solid support. These included the 3' phosphoramidite methods in which the 3' terminal base of the desired oligonucleotide is immobilized on an insoluble carrier. The nucleotide base to be added is blocked at the 5' hydroxyl and activated at the 3' hydroxyl so as to cause coupling with the immobilized nucleotide base. Deblocking of the new immobilized nucleotide compound and repetition of the cycle will produce the desired polynucleotide. Alternatively, polynucleotides may be prepared as described in U.S. Patent No. 5,049,656, the disclosure of which is incorporated herein by reference. In some embodiments, several polynucleotides prepared as described above are ligated together to generate longer polynucleotides having a desired sequence.

EXAMPLE 61

Methods of Making Polypeptides

The present invention also comprises methods of making the polynucleotides encoded by EST-related nucleic acids, fragments of EST-related nucleic acids, positional segments of the EST-related nucleic acids, or fragments of positional segments of the EST-related nucleic acids and methods of making the EST-related polypeptides, fragments of EST-related polypeptides, positional segments of EST-related polypeptides, or fragments of EST-related polypeptides. The methods comprise sequentially linking together amino acids to produce the nucleic polypeptides having the

preceding sequences. In some embodiments, the polypeptides made by these methods are 150 amino acid or less in length. In other embodiments, the polypeptides made by these methods are 120 amino acids or less in length.

A variety of methods of making polypeptides are known to those skilled in the art, including methods in which the carboxyl terminal amino acid is bound to polyvinyl benzene or another suitable resin. The amino acid to be added possesses blocking groups on its amino moiety and any side chain reactive groups so that only its carboxyl moiety can react. The carboxyl group is activated with carbodiimide or another activating agent and allowed to couple to the immobilized amino acid. After removal of the blocking group, the cycle is repeated to generate a polypeptide having the desired sequence. Alternatively, the methods described in U.S. Patent No. 5,049,656, the disclosure of which is incorporated herein by reference, may be used.

As discussed above, the EST-related nucleic acids, fragments of the EST-related nucleic acids, positional segments of the EST-related nucleic acids, or fragments of positional segments of the EST-related nucleic acids can be used for various purposes. The polynucleotides can be used to express recombinant protein for analysis, characterization or therapeutic use; production of secreted polypeptides or chimeric polypeptides, antibody production, as markers for tissues in which the corresponding protein is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in disease states); as molecular weight markers on Southern gels; as chromosome markers or tags (when labeled) to identify chromosomes or to map related gene positions; to compare with endogenous DNA sequences in patients to identify potential genetic disorders; as probes to hybridize and thus discover novel, related DNA sequences; as a source of information to derive PCR primers for genetic fingerprinting; for selecting and making oligomers for attachment to a "gene chip" or other support, including for examination for expression patterns; to raise anti-protein antibodies using DNA immunization techniques; and as an antigen to raise anti-DNA antibodies or elicit another immune response. Where the polynucleotide encodes a protein or polypeptide which binds or potentially binds to another protein or polypeptide (such as, for example, in a receptor-ligand interaction), the polynucleotide can also be used in interaction trap assays (such as, for example, that described in Gyuris *et al.*, *Cell* **75**:791-

803 (1993), the disclosure of which is hereby incorporated by reference) to identify polynucleotides encoding the other protein or polypeptide with which binding occurs or to identify inhibitors of the binding interaction.

The proteins or polypeptides provided by the present invention can similarly be used in assays to determine biological activity, including in a panel of multiple proteins for high-throughput screening; to raise antibodies or to elicit another immune response; as a reagent (including the labeled reagent) in assays designed to quantitatively determine levels of the protein (or its receptor) in biological fluids; as markers for tissues in which the corresponding protein is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in a disease state); and, of course, to isolate correlative receptors or ligands. Where the protein or polypeptide binds or potentially binds to another protein or polypeptide (such as, for example, in a receptor-ligand interaction), the protein can be used to identify the other protein with which binding occurs or to identify inhibitors of the binding interaction. Proteins or polypeptides involved in these binding interactions can also be used to screen for peptide or small molecule inhibitors or agonists of the binding interaction.

Any or all of these research utilities are capable of being developed into reagent grade or kit format for commercialization as research products.

Methods for performing the uses listed above are well known to those skilled in the art. References disclosing such methods include without limitation "Molecular Cloning; A Laboratory Manual", 2d ed., Cold Spring Harbor Laboratory Press, Sambrook, J., E.F. Fritsch and T. Maniatis eds., 1989, and "Methods in Enzymology; Guide to Molecular Cloning Techniques", Academic Press, Berger, S.L. and A.R. Kimmel eds., 1987.

Polynucleotides and proteins or polypeptides of the present invention can also be used as nutritional sources or supplements. Such uses include without limitation use as a protein or amino acid supplement, use as a carbon source, use as a nitrogen source and use as a source of carbohydrate. In such cases the protein or polynucleotide of the invention can be added to the feed of a particular organism or can be administered as a separate solid or liquid preparation, such as in the form of powder, pills, solutions, suspensions or

capsules. In the case of microorganisms, the protein or polynucleotide of the invention can be added to the medium in or on which the microorganism is cultured.

Although this invention has been described in terms of certain preferred embodiments, other embodiments which will be apparent to those of ordinary skill in the art in view of the disclosure herein are also within the scope of this invention. Accordingly, the scope of the invention is intended to be defined only by reference to the appended claims. All documents cited herein are incorporated herein by reference in their entirety.

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
24	[109-342],[188-340]	70	[159-395],[317-472]
25	[63-365]	71	[143-328]
26	[73-555]	72	[65-487],[142-486]
27	[363-512]	73	[38-268]
28	[21-485]	74	[85-417]
29	[105-332]	75	[85-420]
30	[166-366]	76	[196-483],[248-484]
31	[52-504]	77	[171-434]
32	[107-517]	78	[26-190],[263-793]
33	[157-477]	79	[168-443]
34	[233-397]	80	[112-306],[153-308]
35	[60-482]	81	[147-323]
36	[284-454]	82	[21-569]
37	[35-481],[238-432]	83	[289-468]
38	[77-490]	84	[101-298],[295-459]
39	[107-676]	85	[255-419],[289-468]
40	[31-249]	86	[30-179],[300-515]
41	[81-440]	87	[221-673]
42	[23-424],[196-351]	88	[153-401]
43	[53-511]	89	[209-472]
44	[118-339]	90	[278-472]
45	[185-544]	91	[116-286],[355-570]
46	[9-482],[238-483]	92	[164-586]
47	[69-494]	93	[54-311]
48	[316-534]	94	[127-450]
49	[27-431]	95	[40-324]
50	[54-410]	96	[1-381],[24-263]
51	[164-463]	97	[227-670]
52	[94-546]	98	[76-450],[99-281]
53	[74-481]	99	[117-482]
54	[27-503]	100	[34-498]
55	[260-544]	101	[76-504],[95-250]
56	[297-506]	102	[72-248]
57	[27-479]	103	[113-349]
58	[163-390]	104	[72-356]
59	[85-273]	105	[73-276]
60	[85-273]	106	[167-487]
61	[31-273]	107	[257-490]
62	[46-255]	108	[274-453]
63	[154-342]	109	[144-500],[331-498]
64	[34-276]	110	[195-569]
65	[5-172]	111	[33-269],[116-583]
66	[144-479]	112	[153-416]
67	[233-478]	113	[14-400]
68	[115-321]	114	[9-524]
69	[72-443]	115	[258-479]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
116	[223-495]	162	[32-721]
117	[206-622]	163	[298-495]
118	[344-496]	164	[306-491]
119	[290-541]	165	[45-593]
120	[86-451]	166	[156-308],[161-499]
121	[100-465]	167	[297-479]
122	[13-213]	168	[233-562],[270-515],[280-498]
123	[93-371],[202-465]	169	[164-490],[318-488]
124	[195-488]	170	[250-540]
125	[201-491]	171	[127-528]
126	[144-488]	172	[242-448]
127	[44-463]	173	[96-599]
128	[131-553]	174	[239-514],[306-461]
129	[88-465],[153-410]	175	[80-313],[96-458]
130	[61-456]	176	[140-499],[261-431]
131	[194-391]	177	[74-508]
132	[124-477]	178	[90-542]
133	[7-306],[89-289],[129-308]	179	[110-301]
134	[222-422]	180	[44-502]
135	[142-570]	181	[293-454],[309-542]
136	[59-415],[265-414]	182	[35-205],[150-509]
137	[39-500]	183	[198-500]
138	[143-493]	184	[202-465]
139	[259-645]	185	[274-561]
140	[236-496]	186	[229-483]
141	[292-456]	187	[202-519]
142	[54-488]	188	[148-330]
143	[62-217]	189	[86-262]
144	[6-290],[265-522]	190	[110-550]
145	[112-513]	191	[223-405]
146	[152-523]	192	[35-247]
147	[276-437]	193	[148-324]
148	[72-263]	194	[154-333]
149	[221-499]	195	[148-336]
150	[88-318]	196	[182-490]
151	[293-511]	197	[177-482]
152	[71-496]	198	[86-415],[304-471]
153	[112-501]	199	[72-521]
154	[19-225]	200	[362-829]
155	[354-542]	201	[290-475]
156	[21-209]	202	[346-522]
157	[303-473]	203	[272-451]
158	[198-587]	204	[6-503]
159	[55-531]	205	[73-276]
160	[4-507]	206	[298-699]
161	[8-307]	207	[213-497]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
208	[211-483],[306-485]
209	[69-458]
210	[8-559]
211	[167-481]
212	[21-452]
213	[286-471]
214	[214-444]
215	[236-451]
216	[183-470]
217	[78-461]
218	[187-468]
219	[187-468]
220	[330-479]
221	[142-363],[198-362]
222	[178-483]
223	[55-213],[318-488]
224	[97-492]
225	[142-315],[315-563]
226	[19-210],[306-497]
227	[130-372],[252-524],[302-523]
228	[89-283]
229	[97-450],[216-422],[242-415]
230	[83-304]
231	[111-350]
232	[97-522],[215-385]
233	[85-252]
234	[146-403]
235	[182-592]
236	[214-399]
237	[145-480],[258-476]
238	[118-663]
239	[114-539],[229-432]
240	[98-559]
241	[131-478]
242	[30-515]
243	[167-556]
244	[258-476]
245	[27-470],[155-466]
246	[65-451]
247	[94-456]
248	[266-472]
249	[13-321],[50-322]
250	[60-548]
251	[118-453]
252	[22-576]
253	[36-671]

Seq Id No.	Positions of Open Reading Frame(s)
254	[272-478]
255	[41-325]
256	[97-474]
257	[127-504]
258	[36-446],[289-447]
259	[172-432],[218-400]
260	[89-466]
261	[89-508]
262	[78-476]
263	[103-501]
264	[217-570]
265	[233-496]
266	[357-551]
267	[221-481]
268	[112-597]
269	[254-466]
270	[4-171]
271	[222-737]
272	[330-479]
273	[15-449],[263-427]
274	[71-472]
275	[43-540]
276	[175-468]
277	[204-482]
278	[35-472]
279	[261-509]
280	[158-313],[186-398],[286-498]
281	[104-442],[178-471]
282	[34-489]
283	[23-478]
284	[171-488]
285	[166-465]
286	[176-451]
287	[63-254],[104-607],[261-410]
288	[24-296]
289	[140-502]
290	[17-385]
291	[94-498],[116-319]
292	[518-670]
293	[139-510]
294	[330-488]
295	[107-322]
296	[40-201]
297	[247-495]
298	[220-492]
299	[4-222],[267-476]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
300	[9-248]
301	[221-487]
302	[170-481]
303	[264-494]
304	[136-378],[233-622]
305	[74-520],[291-476]
306	[109-498]
307	[38-487]
308	[28-495]
309	[28-483]
310	[142-465]
311	[201-434]
312	[339-491]
313	[180-569],[281-535]
314	[99-386]
315	[323-481]
316	[171-476],[268-432],[296-463]
317	[66-458]
318	[67-555],[129-464]
319	[92-586]
320	[32-319],[304-489]
321	[303-473]
322	[304-462]
323	[302-472]
324	[242-496]
325	[355-519]
326	[303-479]
327	[136-291]
328	[320-514]
329	[303-512]
330	[166-342],[224-541]
331	[303-473]
332	[303-494]
333	[3-161],[272-496]
334	[174-461]
335	[303-473]
336	[319-471]
337	[196-501],[279-638]
338	[292-561],[338-535]
339	[180-428]
340	[30-509]
341	[116-487]
342	[68-460],[82-279]
343	[1-450]
344	[86-478]
345	[34-285],[152-472]

Seq Id No.	Positions of Open Reading Frame(s)
346	[197-535]
347	[22-486]
348	[51-470]
349	[15-563],[331-498]
350	[199-492]
351	[251-520]
352	[28-489]
353	[70-360],[164-490]
354	[76-363]
355	[23-232],[69-233]
356	[206-520]
357	[6-485],[121-288]
358	[80-274],[250-468]
359	[42-332]
360	[117-413]
361	[81-737],[421-588]
362	[110-469]
363	[271-450]
364	[79-486]
365	[432-596]
366	[80-274],[250-453]
367	[21-494]
368	[229-411]
369	[53-226],[243-482]
370	[277-513]
371	[62-436]
372	[204-392]
373	[276-473]
374	[156-317]
375	[265-429]
376	[100-522]
377	[95-457]
378	[96-284]
379	[21-320],[323-496]
380	[110-493]
381	[242-529],[297-530],[328-528]
382	[15-299],[139-300]
383	[15-569],[92-328]
384	[153-479]
385	[233-421]
386	[125-496]
387	[290-496]
388	[57-473]
389	[136-318]
390	[71-490]
391	[35-457]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
392	[38-307]	438	[153-341]
393	[186-347]	439	[255-428]
394	[50-502]	440	[138-536]
395	[8-409],[73-306]	441	[149-358]
396	[32-205],[208-450]	442	[329-502]
397	[107-442]	443	[91-465]
398	[65-370],[370-573]	444	[215-454],[285-464]
399	[139-369]	445	[141-503]
400	[225-455]	446	[56-475],[258-407]
401	[185-481]	447	[49-504]
402	[11-286],[31-180]	448	[95-493]
403	[67-216]	449	[51-368],[299-502]
404	[193-417]	450	[20-460]
405	[18-434]	451	[6-506]
406	[104-448]	452	[154-480]
407	[226-510]	453	[265-510]
408	[227-433]	454	[337-492]
409	[185-484]	455	[176-592]
410	[37-237]	456	[99-482]
411	[223-480],[276-482]	457	[242-463]
412	[331-480]	458	[119-376]
413	[96-419]	459	[144-515]
414	[188-463]	460	[197-475]
415	[37-219]	461	[303-527]
416	[66-458]	462	[89-283]
417	[297-473]	463	[161-457]
418	[223-507]	464	[37-186]
419	[1-171]	465	[239-460]
420	[8-505]	466	[223-495]
421	[323-502]	467	[192-479]
422	[28-270]	468	[125-490]
423	[51-314],[56-226]	469	[40-387],[161-376]
424	[54-212]	470	[197-478]
425	[176-406]	471	[81-467]
426	[105-323]	472	[170-526]
427	[329-478]	473	[87-548]
428	[318-497]	474	[26-301]
429	[67-309]	475	[10-168]
430	[286-468]	476	[177-470]
431	[278-463]	477	[71-250]
432	[167-493]	478	[248-472]
433	[174-413]	479	[110-508]
434	[104-322],[138-290]	480	[356-505]
435	[386-547]	481	[188-352]
436	[184-492]	482	[20-286]
437	[78-455]	483	[18-449],[193-387]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
484	[91-243]
485	[228-482]
486	[149-382]
487	[164-370]
488	[24-266]
489	[1-282]
490	[273-458],[277-456]
491	[299-457]
492	[125-484],[237-461]
493	[244-450]
494	[121-294]
495	[217-486]
496	[65-268],[291-467]
497	[189-479]
498	[127-294]
499	[143-421]
500	[184-459]
501	[312-506]
502	[109-426]
503	[263-481]
504	[12-314],[190-489]
505	[7-315],[147-500]
506	[52-456]
507	[334-501]
508	[271-471]
509	[272-469]
510	[106-486]
511	[25-204]
512	[130-318]
513	[135-317],[169-468],[320-469]
514	[259-453]
515	[296-478]
516	[88-495]
517	[226-477]
518	[267-458]
519	[24-560],[184-390]
520	[93-464]
521	[290-478]
522	[94-276]
523	[105-416],[238-417]
524	[288-464]
525	[1-468]
526	[157-459]
527	[71-481]
528	[207-455]
529	[4-204],[242-493]
530	[209-472]
531	[17-178],[306-467]
532	[104-487]
533	[331-489]
534	[7-192]
535	[105-395]
536	[248-502]
537	[232-501]
538	[43-225]
539	[177-401]
540	[272-472]
541	[20-451]
542	[185-505],[324-506]
543	[260-469]
544	[211-372],[291-488]
545	[282-467]
546	[10-198],[228-452]
547	[155-484]
548	[344-526]
549	[251-484]
550	[71-283],[283-456]
551	[154-525]
552	[177-458]
553	[287-511],[363-512]
554	[130-462]
555	[36-230]
556	[287-490]
557	[164-472],[315-473]
558	[252-470]
559	[216-383]
560	[293-469]
561	[91-504]
562	[222-488]
563	[151-468]
564	[166-345],[297-479]
565	[166-345],[297-491]
566	[74-508]
567	[94-477]
568	[308-466]
569	[135-374]
570	[307-486]
571	[176-601]
572	[99-251]
573	[343-495]
574	[133-495],[321-494]
575	[51-449]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
576	[149-451]	622	[214-474]
577	[130-507],[236-505]	623	[241-411]
578	[195-641]	624	[50-448]
579	[191-508],[273-485]	625	[140-292],[401-550]
580	[188-412]	626	[203-463]
581	[43-480]	627	[168-380],[380-580]
582	[216-509]	628	[282-479]
583	[121-456]	629	[174-476]
584	[226-537]	630	[422-607]
585	[202-513]	631	[255-458]
586	[196-531]	632	[212-502]
587	[67-327]	633	[326-484]
588	[183-491],[221-454]	634	[13-462]
589	[258-734]	635	[292-492]
590	[192-344],[280-450]	636	[84-479]
591	[138-521],[229-390]	637	[147-305],[152-448]
592	[211-468]	638	[147-344]
593	[72-233]	639	[202-468]
594	[68-238]	640	[109-426]
595	[199-372]	641	[91-306],[273-458]
596	[300-458]	642	[246-497],[265-495]
597	[157-459]	643	[119-271]
598	[64-498]	644	[170-352]
599	[335-520]	645	[11-166],[297-545]
600	[79-504]	646	[175-336]
601	[14-169]	647	[124-366]
602	[40-246]	648	[161-481],[333-482]
603	[257-529]	649	[166-510]
604	[205-477]	650	[308-487]
605	[14-271],[154-453]	651	[120-509]
606	[93-326]	652	[273-488]
607	[279-521]	653	[153-314],[325-519]
608	[105-383]	654	[107-343]
609	[256-417]	655	[99-506]
610	[142-414],[251-415]	656	[244-486]
611	[133-459]	657	[51-509]
612	[96-338]	658	[78-551]
613	[145-333],[218-511]	659	[57-263]
614	[187-504],[347-505]	660	[43-234],[286-459],[300-458]
615	[188-487],[324-488]	661	[55-210],[197-451]
616	[303-479]	662	[27-485]
617	[148-492]	663	[308-457]
618	[121-357]	664	[1-153],[199-354],[264-533]
619	[121-360]	665	[43-363],[249-488]
620	[121-309]	666	[324-539]
621	[123-278]	667	[20-490],[42-257]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
668	[177-497]
669	[9-539]
670	[280-495]
671	[33-269],[116-505]
672	[32-286],[303-491]
673	[236-463]
674	[27-467]
675	[279-491]
676	[247-429]
677	[95-496]
678	[204-473]
679	[9-209],[209-451]
680	[229-459]
681	[13-399]
682	[267-506]
683	[109-534]
684	[106-306]
685	[298-450]
686	[262-495]
687	[44-496]
688	[264-497]
689	[15-467],[205-366]
690	[33-521]
691	[263-472]
692	[255-503]
693	[269-457]
694	[100-540]
695	[177-338]
696	[21-170]
697	[100-279],[289-558]
698	[104-433]
699	[4-210],[242-517]
700	[139-387]
701	[161-310],[310-486]
702	[64-480]
703	[9-494],[113-268]
704	[289-492]
705	[128-304],[163-477]
706	[228-671]
707	[147-401]
708	[44-499]
709	[213-398]
710	[28-471]
711	[211-369]
712	[305-484]
713	[193-489]

Seq Id No.	Positions of Open Reading Frame(s)
714	[116-532],[361-534]
715	[336-524]
716	[178-453]
717	[290-451]
718	[305-493]
719	[116-490]
720	[97-468]
721	[205-483]
722	[265-558]
723	[94-276],[315-497]
724	[56-238],[277-468]
725	[257-529]
726	[256-501]
727	[157-396]
728	[96-476],[149-376]
729	[243-470]
730	[132-512]
731	[198-518]
732	[136-378]
733	[189-380]
734	[129-278]
735	[313-489],[341-490]
736	[110-304],[304-495]
737	[310-474]
738	[311-496]
739	[228-515]
740	[229-453]
741	[237-461]
742	[79-501]
743	[31-327]
744	[89-448],[156-365]
745	[290-472]
746	[217-519],[326-505]
747	[91-474],[200-379]
748	[91-471],[200-379]
749	[91-453],[200-379]
750	[91-459],[200-379]
751	[91-477],[200-379]
752	[6-377],[19-183],[226-375]
753	[28-180]
754	[43-486]
755	[236-499]
756	[6-305],[125-307]
757	[36-494]
758	[136-390]
759	[211-366]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
760	[68-466]
761	[100-351]
762	[75-326],[151-324]
763	[36-386],[196-378]
764	[303-470]
765	[141-455],[248-406]
766	[149-490]
767	[159-518]
768	[263-544]
769	[68-538]
770	[138-476]
771	[330-506]
772	[151-375],[176-337]
773	[153-497]
774	[342-497]
775	[192-497],[247-498]
776	[255-485],[310-459]
777	[99-746],[493-726]
778	[91-588]
779	[78-470]
780	[131-703]
781	[196-501],[251-412]
782	[312-485]
783	[352-516]
784	[291-467]
785	[351-515]
786	[248-514]
787	[76-474]
788	[306-617],[337-537]
789	[212-376]
790	[53-493]
791	[242-391],[273-464]
792	[206-484]
793	[244-492]
794	[24-452]
795	[68-310],[352-546]
796	[113-487]
797	[182-496]
798	[279-476]
799	[24-452]
800	[124-576]
801	[20-193],[42-194]
802	[191-442]
803	[21-284],[233-466]
804	[21-446]
805	[271-483]

Seq Id No.	Positions of Open Reading Frame(s)
806	[59-508]
807	[280-474]
808	[225-491]
809	[131-376]
810	[104-388]
811	[252-518]
812	[92-256]
813	[12-191],[34-189]
814	[223-483]
815	[209-541]
816	[269-478],[319-480]
817	[32-220],[99-356],[298-507]
818	[60-212],[263-526]
819	[60-212],[263-526]
820	[89-331]
821	[36-407]
822	[212-376]
823	[376-534]
824	[78-350]
825	[44-325],[147-326]
826	[313-465]
827	[218-418]
828	[58-315]
829	[331-480]
830	[340-501]
831	[75-227]
832	[39-317],[104-289],[265-492]
833	[125-301],[304-495]
834	[489-650]
835	[21-257]
836	[195-485]
837	[149-301]
838	[2-223]
839	[7-228],[164-535]
840	[54-509]
841	[61-342]
842	[105-512]
843	[80-535]
844	[286-525]
845	[52-459]
846	[315-503]
847	[35-469]
848	[41-484]
849	[217-387],[258-518]
850	[275-475]
851	[116-490]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
852	[148-363],[324-473]	898	[11-307],[208-453]
853	[244-546]	899	[116-496]
854	[35-229],[126-497]	900	[69-422]
855	[131-280],[175-483]	901	[69-359]
856	[139-471]	902	[68-496],[114-284]
857	[261-500]	903	[31-363]
858	[176-514]	904	[42-539]
859	[228-479]	905	[213-368]
860	[273-506]	906	[24-485]
861	[226-534],[348-533]	907	[271-462]
862	[31-504]	908	[242-469]
863	[17-403]	909	[147-707]
864	[171-482]	910	[147-602]
865	[156-557],[266-544]	911	[22-216],[270-452]
866	[388-537]	912	[7-171]
867	[288-494]	913	[157-411],[200-412]
868	[288-491]	914	[77-400]
869	[85-351]	915	[55-243],[86-244]
870	[279-515]	916	[285-491]
871	[305-466]	917	[75-272]
872	[154-348]	918	[46-462]
873	[160-387],[387-542]	919	[46-516]
874	[133-489]	920	[178-354]
875	[211-369]	921	[79-525]
876	[314-550]	922	[83-478]
877	[56-244]	923	[31-474],[290-472]
878	[312-473]	924	[252-434]
879	[234-485]	925	[725-898]
880	[83-463]	926	[130-522]
881	[152-334],[394-711]	927	[113-358]
882	[220-489]	928	[303-512]
883	[90-542]	929	[166-546]
884	[170-346]	930	[222-485]
885	[232-483]	931	[112-456]
886	[261-497]	932	[54-527]
887	[231-455]	933	[205-501]
888	[117-452]	934	[31-339]
889	[158-487]	935	[76-402]
890	[163-525]	936	[108-503]
891	[88-408]	937	[274-600]
892	[21-266],[304-516]	938	[140-493]
893	[125-478],[169-384]	939	[228-521]
894	[140-547]	940	[228-539]
895	[224-499]	941	[224-556]
896	[24-323]	942	[37-477],[179-427]
897	[165-467]	943	[158-313],[217-474]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
944	[38-529]	990	[150-458]
945	[213-605]	991	[214-549]
946	[219-488]	992	[94-549]
947	[94-285]	993	[208-564]
948	[43-345]	994	[85-531]
949	[238-555]	995	[72-227]
950	[64-351],[195-353]	996	[229-417]
951	[213-515]	997	[54-218]
952	[141-506]	998	[180-353],[307-474]
953	[195-464]	999	[139-357]
954	[99-476],[185-409]	1000	[38-319]
955	[149-505]	1001	[29-490],[153-449]
956	[202-438]	1002	[128-583]
957	[1-207],[395-628]	1003	[188-520]
958	[183-524]	1004	[218-490]
959	[209-496],[249-446]	1005	[196-450],[242-433]
960	[195-500]	1006	[217-474]
961	[188-523]	1007	[201-458],[247-396]
962	[70-444],[108-443],[245-421]	1008	[201-443],[247-396]
963	[122-334]	1009	[185-424],[231-380]
964	[184-456]	1010	[168-506],[214-363]
965	[12-203],[288-497]	1011	[201-467],[247-396]
966	[128-310]	1012	[201-428],[247-396]
967	[13-180]	1013	[172-492],[218-367]
968	[215-547]	1014	[201-533],[247-396]
969	[230-493]	1015	[201-428],[247-396]
970	[247-459]	1016	[159-413],[205-354]
971	[29-229],[240-452],[248-490]	1017	[159-428],[205-354]
972	[131-469]	1018	[176-508],[222-371]
973	[214-471]	1019	[159-515],[205-354]
974	[83-280]	1020	[201-506],[247-396]
975	[171-320]	1021	[207-410],[253-402]
976	[101-478]	1022	[172-486],[218-367]
977	[1-174],[180-329],[281-514]	1023	[171-479],[217-366]
978	[278-493]	1024	[169-441],[215-364]
979	[67-459]	1025	[201-440],[247-396]
980	[254-481]	1026	[173-463],[219-368]
981	[350-502]	1027	[159-524],[205-354]
982	[119-388]	1028	[211-381],[218-367]
983	[131-412]	1029	[172-477],[218-367]
984	[71-538]	1030	[130-474]
985	[227-481],[255-425],[283-480]	1031	[129-554]
986	[290-487]	1032	[152-385],[376-537]
987	[32-427]	1033	[140-424]
988	[135-314],[185-490]	1034	[134-460]
989	[206-508]	1035	[97-453]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1036	[260-445]
1037	[289-450]
1038	[11-298],[178-453]
1039	[133-291]
1040	[53-520],[129-398]
1041	[250-453]
1042	[44-478]
1043	[39-221],[363-530]
1044	[327-515]
1045	[82-471]
1046	[82-354]
1047	[24-176]
1048	[78-494]
1049	[94-468]
1050	[229-531]
1051	[363-515]
1052	[13-273],[116-274],[120-272]
1053	[171-515]
1054	[119-316],[268-456]
1055	[21-242]
1056	[98-484]
1057	[219-422]
1058	[59-448]
1059	[366-566]
1060	[13-450],[209-361]
1061	[95-418]
1062	[98-400]
1063	[98-466]
1064	[100-555]
1065	[145-486]
1066	[97-315]
1067	[98-481]
1068	[98-379]
1069	[98-505]
1070	[98-493]
1071	[362-529]
1072	[180-395]
1073	[118-327]
1074	[140-562],[378-551]
1075	[239-490]
1076	[96-479],[196-357]
1077	[59-262],[346-519]
1078	[224-397],[250-480]
1079	[308-538]
1080	[30-254],[286-507]
1081	[262-444]
1082	[131-478]
1083	[216-488]
1084	[193-417]
1085	[189-491]
1086	[192-413]
1087	[211-480]
1088	[69-254]
1089	[153-581]
1090	[98-346]
1091	[344-625]
1092	[252-482]
1093	[221-493]
1094	[141-512]
1095	[337-519]
1096	[56-439]
1097	[190-549]
1098	[272-517],[336-515]
1099	[104-484],[270-455]
1100	[191-463]
1101	[303-482]
1102	[10-234]
1103	[84-251]
1104	[69-485],[127-471]
1105	[191-514]
1106	[303-491]
1107	[117-491]
1108	[341-526]
1109	[207-482]
1110	[341-523]
1111	[137-349]
1112	[96-257]
1113	[96-482]
1114	[116-331]
1115	[10-261]
1116	[204-365]
1117	[341-523]
1118	[218-406]
1119	[37-246]
1120	[35-238],[163-615]
1121	[116-283]
1122	[386-559]
1123	[69-398]
1124	[324-551]
1125	[9-161],[179-484]
1126	[381-533]
1127	[65-223]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
1128	[316-501]	1174	[71-313],[274-498]
1129	[214-426]	1175	[191-505]
1130	[52-258]	1176	[361-510]
1131	[99-470]	1177	[351-530]
1132	[270-527]	1178	[108-524]
1133	[178-348]	1179	[351-914],[397-567]
1134	[191-505]	1180	[156-326],[194-556]
1135	[157-564]	1181	[104-691]
1136	[138-287],[296-520]	1182	[108-566]
1137	[93-524]	1183	[31-435]
1138	[42-356]	1184	[334-486]
1139	[322-609]	1185	[75-599]
1140	[203-478]	1186	[161-391],[279-548],[358-534]
1141	[283-492]	1187	[36-509],[205-462]
1142	[36-392],[196-393]	1188	[277-471]
1143	[66-509]	1189	[290-472],[315-470]
1144	[94-468]	1190	[32-535]
1145	[71-238]	1191	[294-476]
1146	[27-341]	1192	[53-205],[331-552]
1147	[265-528]	1193	[290-574]
1148	[86-481]	1194	[65-469]
1149	[39-503]	1195	[22-174],[128-478],[289-450]
1150	[218-517]	1196	[86-553]
1151	[137-529]	1197	[51-482],[163-366]
1152	[191-370]	1198	[92-460]
1153	[136-450]	1199	[138-467]
1154	[70-453]	1200	[106-270],[171-485]
1155	[253-459]	1201	[24-206]
1156	[147-494]	1202	[343-510]
1157	[272-556]	1203	[91-333],[287-496],[360-749]
1158	[182-457]	1204	[106-348],[302-511],[375-533]
1159	[280-480]	1205	[288-452]
1160	[323-535]	1206	[188-463]
1161	[339-506]	1207	[15-506],[70-279]
1162	[338-499]	1208	[157-456]
1163	[338-487]	1209	[157-486]
1164	[342-491]	1210	[273-599]
1165	[299-475]	1211	[372-560]
1166	[339-488]	1212	[267-452]
1167	[337-492]	1213	[145-402]
1168	[118-321]	1214	[373-549]
1169	[14-457],[282-458]	1215	[17-223],[22-522],[249-485]
1170	[255-404],[353-517]	1216	[104-505]
1171	[204-455]	1217	[199-348]
1172	[151-564]	1218	[267-455]
1173	[23-469]	1219	[267-452]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1220	[268-453],[272-442]
1221	[27-485]
1222	[274-459],[278-448]
1223	[262-462]
1224	[261-458]
1225	[182-346]
1226	[51-200]
1227	[262-456]
1228	[178-594]
1229	[109-579]
1230	[103-504]
1231	[62-517],[192-350]
1232	[155-316]
1233	[13-270],[270-473]
1234	[57-488]
1235	[141-317]
1236	[114-485]
1237	[75-455]
1238	[74-223],[105-536]
1239	[29-466]
1240	[307-567]
1241	[73-246]
1242	[250-408]
1243	[261-539]
1244	[309-563]
1245	[293-544]
1246	[75-476]
1247	[268-504]
1248	[55-525]
1249	[221-466]
1250	[33-536]
1251	[41-568]
1252	[41-490]
1253	[40-528],[254-526]
1254	[32-514]
1255	[32-511]
1256	[34-480]
1257	[33-482]
1258	[89-454]
1259	[324-524]
1260	[121-552]
1261	[245-649]
1262	[141-491]
1263	[199-507]
1264	[66-488],[316-489]
1265	[159-539]

Seq Id No.	Positions of Open Reading Frame(s)
1266	[157-306]
1267	[291-515]
1268	[189-611]
1269	[84-542]
1270	[154-495]
1271	[132-287],[378-530]
1272	[193-474]
1273	[41-433]
1274	[33-227]
1275	[205-519]
1276	[130-540]
1277	[102-494]
1278	[134-487]
1279	[28-222],[238-480],[330-482]
1280	[358-603]
1281	[306-491]
1282	[114-512]
1283	[276-518]
1284	[4-474]
1285	[94-246],[135-476]
1286	[235-516]
1287	[135-488]
1288	[91-243],[132-488]
1289	[89-418]
1290	[279-512]
1291	[377-526]
1292	[94-435],[161-457]
1293	[167-406],[253-483]
1294	[68-364]
1295	[125-466]
1296	[70-300],[242-493]
1297	[98-271]
1298	[20-472]
1299	[30-224],[49-225]
1300	[37-561]
1301	[33-188],[340-501]
1302	[233-574],[279-638]
1303	[73-597]
1304	[305-511],[342-497]
1305	[299-469]
1306	[105-482]
1307	[228-485]
1308	[30-338],[173-337]
1309	[162-449]
1310	[37-459],[233-436]
1311	[14-487],[228-461]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1312	[267-515]
1313	[96-293],[269-469]
1314	[105-503]
1315	[99-491]
1316	[13-333]
1317	[68-469]
1318	[49-201],[207-503]
1319	[104-562],[358-561]
1320	[143-367]
1321	[235-468]
1322	[28-249]
1323	[28-204]
1324	[28-240]
1325	[28-210]
1326	[154-510]
1327	[208-480],[251-430]
1328	[294-470]
1329	[5-169],[208-453]
1330	[127-498]
1331	[35-526]
1332	[11-475]
1333	[3-347]
1334	[221-394]
1335	[93-341]
1336	[39-317]
1337	[137-478]
1338	[60-212]
1339	[1-477],[152-415]
1340	[200-430]
1341	[105-395]
1342	[92-412]
1343	[90-479]
1344	[33-263],[224-388]
1345	[9-446],[199-363],[314-622],[493-774]
1346	[9-491],[199-438]
1347	[189-464]
1348	[112-387]
1349	[56-214]
1350	[132-443],[190-396]
1351	[14-163]
1352	[57-215]
1353	[169-423]
1354	[183-398]
1355	[133-417]
1356	[310-906]

Seq Id No.	Positions of Open Reading Frame(s)
1357	[39-212]
1358	[176-421],[354-521]
1359	[70-354],[204-401]
1360	[21-404]
1361	[264-701],[355-564]
1362	[53-526]
1363	[137-454]
1364	[103-255]
1365	[230-400]
1366	[185-613]
1367	[61-267]
1368	[118-399]
1369	[87-329],[332-616]
1370	[99-281]
1371	[208-429]
1372	[316-495]
1373	[32-277],[193-402]
1374	[99-356],[113-364]
1375	[132-317],[215-457]
1376	[56-355]
1377	[53-247]
1378	[201-491]
1379	[7-216],[189-452]
1380	[113-346],[301-474]
1381	[183-434]
1382	[40-246]
1383	[10-216]
1384	[218-457],[294-485]
1385	[42-440]
1386	[70-252],[114-299]
1387	[37-429]
1388	[37-474]
1389	[56-601]
1390	[97-381]
1391	[142-354]
1392	[322-483]
1393	[125-352],[198-482]
1394	[7-162],[36-221]
1395	[55-297]
1396	[90-326]
1397	[76-273]
1398	[225-428]
1399	[111-371]
1400	[40-189]
1401	[38-262],[88-366]
1402	[113-319]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1403	[10-504]
1404	[101-442]
1405	[94-441]
1406	[155-340]
1407	[30-527]
1408	[106-453]
1409	[169-381]
1410	[137-367],[180-362]
1411	[50-205],[241-402]
1412	[69-356]
1413	[18-257]
1414	[140-472]
1415	[95-346],[213-533]
1416	[67-390],[206-403]
1417	[56-217],[163-336]
1418	[204-353]
1419	[55-261],[261-425]
1420	[57-320]
1421	[243-467],[302-538]
1422	[68-334]
1423	[33-218],[302-475]
1424	[31-207],[51-260],[269-430]
1425	[172-447]
1426	[454-615]
1427	[43-225],[237-428]
1428	[18-314]
1429	[210-386]
1430	[206-355]
1431	[10-273]
1432	[72-287]
1433	[69-305]
1434	[17-259]
1435	[218-418]
1436	[332-574]
1437	[229-429]
1438	[77-247]
1439	[83-259]
1440	[68-238],[169-339],[254-529]
1441	[39-284],[49-222]
1442	[188-472],[256-429]
1443	[157-318]
1444	[58-363]
1445	[6-164],[25-237]
1446	[155-334]
1447	[78-248]
1448	[50-304]

Seq Id No.	Positions of Open Reading Frame(s)
1449	[6-164],[25-240]
1450	[6-164],[25-237]
1451	[6-164],[25-240]
1452	[6-164],[25-237]
1453	[21-380]
1454	[121-288]
1455	[41-286],[324-506]
1456	[153-335]
1457	[153-335]
1458	[121-375]
1459	[153-335]
1460	[17-187],[132-287],[160-378]
1461	[21-266]
1462	[133-336]
1463	[138-671]
1464	[11-166],[279-458]
1465	[21-584]
1466	[64-213]
1467	[250-408]
1468	[9-170],[204-431],[271-444]
1469	[100-441]
1470	[158-442]
1471	[68-235]
1472	[1-309],[144-464],[320-484]
1473	[11-331]
1474	[204-443]
1475	[273-437]
1476	[47-280]
1477	[312-497]
1478	[1-309],[144-461],[320-514]
1479	[206-358],[362-532]
1480	[13-216],[263-466]
1481	[102-326],[292-444]
1482	[125-316],[238-402]
1483	[191-355]
1484	[77-235]
1485	[59-319]
1486	[209-475]
1487	[14-478],[237-485]
1488	[39-347],[142-354]
1489	[32-217]
1490	[69-383],[154-366]
1491	[83-316]
1492	[167-379]
1493	[186-368]
1494	[38-283]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1495	[42-491]
1496	[293-502]
1497	[273-452]
1498	[148-474]
1499	[73-267]
1500	[71-385]
1501	[53-334],[277-435]
1502	[137-286]
1503	[72-296]
1504	[72-296]
1505	[30-242]
1506	[76-234]
1507	[36-404],[112-417]
1508	[238-480]
1509	[96-359]
1510	[125-415]
1511	[138-338]
1512	[190-393]
1513	[77-457]
1514	[279-473]
1515	[27-278]
1516	[257-505]
1517	[342-581]
1518	[77-367]
1519	[165-443]
1520	[16-297]
1521	[52-264],[155-346]
1522	[1-495]
1523	[192-476]
1524	[156-422]
1525	[77-472]
1526	[56-505]
1527	[179-433]
1528	[107-298]
1529	[237-398]
1530	[237-398]
1531	[117-467]
1532	[8-343]
1533	[14-247],[205-447]
1534	[229-456]
1535	[129-554],[202-564]
1536	[176-424]
1537	[111-272]
1538	[281-430]
1539	[289-462]
1540	[216-380]
1541	[239-394]
1542	[90-290]
1543	[174-527]
1544	[121-390]
1545	[93-344]
1546	[88-339]
1547	[133-339]
1548	[139-426]
1549	[84-326]
1550	[205-354]
1551	[43-360]
1552	[221-535],[252-461]
1553	[13-180],[240-443]
1554	[107-298]
1555	[93-383],[202-510]
1556	[224-382],[271-429]
1557	[151-363],[294-491]
1558	[50-520],[360-539]
1559	[92-310]
1560	[233-454]
1561	[179-397]
1562	[179-397]
1563	[28-363]
1564	[28-363]
1565	[90-257]
1566	[4-339]
1567	[22-327],[297-470],[346-519]
1568	[281-451]
1569	[201-578],[371-523]
1570	[109-381]
1571	[23-370]
1572	[72-296]
1573	[267-479]
1574	[176-439]
1575	[33-224],[193-348]
1576	[114-332]
1577	[21-179],[195-347]
1578	[51-254]
1579	[75-332]
1580	[275-448]
1581	[21-377]
1582	[272-481]
1583	[143-433]
1584	[225-458]
1585	[229-465]
1586	[40-234],[69-443]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1587	[261-452]
1588	[148-411]
1589	[16-315],[212-427]
1590	[72-296]
1591	[81-368]
1592	[176-367]
1593	[115-411]
1594	[99-443]
1595	[95-409],[213-386]
1596	[44-427]
1597	[75-317]
1598	[202-477]
1599	[260-544],[571-723]
1600	[136-435]
1601	[21-233]
1602	[165-536]
1603	[44-217],[123-494]
1604	[49-213],[117-539],[422-676]
1605	[35-187]
1606	[139-513],[389-556]
1607	[65-247]
1608	[83-241]
1609	[80-304]
1610	[96-290],[208-381]
1611	[114-308],[172-423]
1612	[67-237],[113-352],[252-425]
1613	[127-285]
1614	[130-300]
1615	[135-320]
1616	[42-536],[119-331]
1617	[32-307]
1618	[75-251]
1619	[65-253]
1620	[154-471],[216-383]
1621	[30-284]
1622	[126-371],[340-525]
1623	[140-304]
1624	[226-447]
1625	[223-435]
1626	[34-327]
1627	[17-298],[46-270]
1628	[54-224]
1629	[124-333]
1630	[60-209]
1631	[8-184],[189-434]
1632	[55-459]
1633	[130-303]
1634	[104-319]
1635	[70-483]
1636	[266-439],[315-473]
1637	[13-165],[21-182]
1638	[22-333]
1639	[47-274]
1640	[52-210]
1641	[64-240]
1642	[67-225]
1643	[16-183],[211-459]
1644	[18-230],[140-352]
1645	[196-396]
1646	[67-225]
1647	[19-315]
1648	[201-410]
1649	[194-379]
1650	[75-275],[134-379]
1651	[145-318]
1652	[47-397]
1653	[322-513]
1654	[167-331]
1655	[191-448]
1656	[94-375]
1657	[26-370],[307-480]
1658	[163-468],[380-628]
1659	[35-319]
1660	[183-413]
1661	[43-264]
1662	[32-385]
1663	[187-405],[282-443],[290-499]
1664	[76-675]
1665	[228-401]
1666	[191-439]
1667	[76-276]
1668	[228-401]
1669	[5-334]
1670	[26-214]
1671	[76-276],[330-530]
1672	[94-324]
1673	[66-251],[258-416]
1674	[159-368]
1675	[44-193]
1676	[203-352]
1677	[97-477]
1678	[41-337]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1679	[111-377]
1680	[96-497],[452-685]
1681	[180-377],[197-370]
1682	[11-487]
1683	[41-304]
1684	[194-427]
1685	[315-536],[439-648]
1686	[24-329]
1687	[76-408]
1688	[75-242]
1689	[28-324]
1690	[138-350]
1691	[239-397]
1692	[2-157]
1693	[196-351],[240-407]
1694	[114-287]
1695	[23-202],[33-293]
1696	[139-378]
1697	[240-395],[284-451]
1698	[8-325],[76-432]
1699	[56-310]
1700	[188-679],[243-521]
1701	[51-209]
1702	[83-358]
1703	[79-288],[291-455]
1704	[49-432]
1705	[35-526]
1706	[148-402]
1707	[110-526],[226-381]
1708	[187-360]
1709	[94-267]
1710	[176-325]
1711	[50-403]
1712	[178-507]
1713	[110-277]
1714	[5-274],[278-481]
1715	[235-414]
1716	[170-319]
1717	[229-471],[261-494]
1718	[53-271]
1719	[278-463]
1720	[202-351]
1721	[56-271]
1722	[62-235]
1723	[8-214]
1724	[55-240]
1725	[21-209]
1726	[108-275]
1727	[234-407]
1728	[128-319]
1729	[17-187]
1730	[147-326]
1731	[50-241]
1732	[28-387]
1733	[73-390]
1734	[235-525]
1735	[52-372],[90-242]
1736	[51-368],[259-432],[356-505]
1737	[86-244],[271-438],[317-520]
1738	[50-340]
1739	[2-250]
1740	[23-247],[73-294]
1741	[194-346]
1742	[128-412]
1743	[132-449]
1744	[86-244],[271-438],[317-466]
1745	[83-658]
1746	[79-276]
1747	[63-299]
1748	[73-249]
1749	[17-316]
1750	[85-333],[186-539],[424-585]
1751	[155-376],[429-581]
1752	[286-465]
1753	[262-501]
1754	[46-249]
1755	[33-218]
1756	[19-168]
1757	[55-399]
1758	[9-380]
1759	[62-385]
1760	[78-311]
1761	[216-395]
1762	[43-312]
1763	[131-346]
1764	[107-313]
1765	[17-244]
1766	[43-312]
1767	[107-313]
1768	[184-444]
1769	[65-370]
1770	[216-401]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1771	[244-465]
1772	[31-213]
1773	[159-470],[178-408]
1774	[21-227],[190-435],[239-451]
1775	[5-328],[79-399]
1776	[5-328],[79-426]
1777	[84-284]
1778	[30-410]
1779	[5-328],[79-426]
1780	[22-210],[122-280]
1781	[2-151],[220-456]
1782	[232-381]
1783	[87-311],[395-544]
1784	[60-242]
1785	[120-347]
1786	[20-247]
1787	[17-178]
1788	[123-332]
1789	[148-333]
1790	[77-388]
1791	[34-315],[336-548]
1792	[95-349]
1793	[29-259]
1794	[238-462]
1795	[5-409]
1796	[186-398]
1797	[269-439]
1798	[280-474]
1799	[174-329],[214-378]
1800	[42-320]
1801	[182-451]
1802	[142-384]
1803	[1-453],[120-353],[381-569]
1804	[30-218]
1805	[90-371],[139-297]
1806	[207-419]
1807	[186-449]
1808	[123-284],[356-514]
1809	[6-212]
1810	[167-508]
1811	[132-419],[287-520]
1812	[122-382]
1813	[87-245]
1814	[183-443]
1815	[14-460]
1816	[28-282]
1817	[106-441],[164-391]
1818	[62-220]
1819	[21-335]
1820	[111-293],[259-546]
1821	[129-323]
1822	[243-479]
1823	[50-202]
1824	[154-351],[236-403],[291-470]
1825	[56-274]
1826	[161-334]
1827	[153-431]
1828	[23-382]
1829	[5-175]
1830	[29-271],[147-374]
1831	[73-378],[282-431]
1832	[70-366]
1833	[109-450],[293-517]
1834	[56-229]
1835	[173-511]
1836	[123-359]
1837	[79-435]
1838	[92-298]
1839	[359-547]
1840	[243-401]
1841	[18-239],[139-438]
1842	[129-323]
1843	[32-274]
1844	[71-256],[195-461]
1845	[216-635],[434-652]
1846	[40-231]
1847	[244-453]
1848	[264-443]
1849	[16-201]
1850	[17-373]
1851	[144-308]
1852	[150-434]
1853	[143-361]
1854	[266-547],[303-497]
1855	[16-201]
1856	[99-395],[172-486]
1857	[37-321],[206-433]
1858	[102-263],[205-387]
1859	[222-374]
1860	[255-422]
1861	[17-178]
1862	[7-162],[436-585]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
1863	[31-321],[305-535]
1864	[102-362]
1865	[232-450]
1866	[20-343]
1867	[166-435],[414-611]
1868	[10-204]
1869	[101-436]
1870	[21-497]
1871	[219-443]
1872	[125-301],[136-357]
1873	[111-386]
1874	[53-229],[214-378]
1875	[6-287]
1876	[29-304],[258-428]
1877	[174-443]
1878	[152-673]
1879	[152-448]
1880	[50-253]
1881	[22-432],[32-472],[141-362]
1882	[27-203]
1883	[184-438]
1884	[179-475]
1885	[237-389]
1886	[75-596]
1887	[53-229],[214-378]
1888	[144-428]
1889	[274-432]
1890	[4-180]
1891	[98-361],[129-329]
1892	[143-418]
1893	[167-493]
1894	[61-429]
1895	[62-430]
1896	[95-475]
1897	[24-209]
1898	[61-429]
1899	[148-414]
1900	[139-327]
1901	[218-370],[285-512]
1902	[38-310]
1903	[125-313]
1904	[126-398]
1905	[9-167],[175-354]
1906	[124-351]
1907	[222-380]
1908	[65-316]
1909	[186-446]
1910	[70-354],[149-304]
1911	[122-352]
1912	[205-408]
1913	[78-233]
1914	[170-346]
1915	[30-356],[67-504]
1916	[13-441]
1917	[291-455]
1918	[69-299]
1919	[15-179]
1920	[199-618],[453-641]
1921	[138-368]
1922	[226-411]
1923	[91-366]
1924	[119-421]
1925	[17-193]
1926	[18-266],[302-463]
1927	[7-354],[195-410],[215-475]
1928	[25-267],[257-475]
1929	[41-220],[289-471]
1930	[13-360],[201-416],[221-481]
1931	[269-418]
1932	[237-473],[241-495]
1933	[105-287]
1934	[1-291]
1935	[189-464]
1936	[344-577]
1937	[34-195]
1938	[84-296]
1939	[34-195]
1940	[34-195]
1941	[8-169]
1942	[34-195]
1943	[34-195]
1944	[34-195]
1945	[195-530],[253-480]
1946	[139-330]
1947	[333-482],[585-740]
1948	[285-506]
1949	[122-271],[153-329]
1950	[206-403]
1951	[82-297],[221-427]
1952	[181-333],[189-347]
1953	[133-327]
1954	[133-327]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
1955	[181-333],[189-347]	2001	[106-348]
1956	[16-243]	2002	[7-234]
1957	[195-407]	2003	[98-340],[202-567]
1958	[181-333],[189-347]	2004	[108-350],[212-490]
1959	[80-301]	2005	[211-570],[230-430]
1960	[171-419]	2006	[181-384],[353-523],[403-792]
1961	[37-279],[98-634]	2007	[79-297]
1962	[209-397]	2008	[58-228]
1963	[248-469]	2009	[125-373],[286-474]
1964	[93-341]	2010	[148-315]
1965	[206-403]	2011	[295-474]
1966	[17-391]	2012	[62-244]
1967	[252-440]	2013	[219-374]
1968	[142-411],[453-608]	2014	[271-426]
1969	[29-367],[330-662],[370-708]	2015	[218-373]
1970	[126-350],[221-394]	2016	[218-379]
1971	[7-186]	2017	[284-439]
1972	[92-340]	2018	[39-266],[184-492]
1973	[47-199],[229-405]	2019	[54-350]
1974	[233-424]	2020	[14-469],[255-428]
1975	[99-410]	2021	[7-330]
1976	[80-238]	2022	[104-367],[157-435]
1977	[203-433]	2023	[24-185]
1978	[19-474]	2024	[161-589]
1979	[15-221]	2025	[32-187]
1980	[97-327]	2026	[88-312]
1981	[64-234],[105-332]	2027	[21-290],[239-406]
1982	[41-352]	2028	[57-248]
1983	[180-455]	2029	[53-454]
1984	[385-768]	2030	[174-530]
1985	[83-325],[126-314]	2031	[130-288]
1986	[7-258]	2032	[187-342]
1987	[102-398]	2033	[221-466]
1988	[98-331]	2034	[22-357]
1989	[52-255]	2035	[102-377]
1990	[76-339]	2036	[266-502]
1991	[162-356]	2037	[36-224],[241-507]
1992	[236-391]	2038	[128-367]
1993	[301-477]	2039	[157-318]
1994	[99-290]	2040	[115-288]
1995	[150-569]	2041	[102-377]
1996	[94-276]	2042	[126-290]
1997	[94-276]	2043	[52-315]
1998	[206-436],[211-534]	2044	[40-318],[318-479]
1999	[6-164],[71-268]	2045	[272-430]
2000	[119-304]	2046	[23-352]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2047	[212-400]
2048	[155-433]
2049	[102-377]
2050	[147-389]
2051	[114-449],[194-364]
2052	[21-290],[239-397]
2053	[52-315]
2054	[102-377]
2055	[21-566]
2056	[44-214]
2057	[1-189]
2058	[88-312]
2059	[36-353]
2060	[225-455]
2061	[65-265],[192-383]
2062	[9-161],[262-417]
2063	[231-404]
2064	[115-288]
2065	[158-325],[219-377]
2066	[24-173]
2067	[39-191]
2068	[57-320]
2069	[189-461],[313-501]
2070	[146-433]
2071	[3-176]
2072	[42-215]
2073	[46-249]
2074	[140-313]
2075	[74-379]
2076	[104-430]
2077	[229-411]
2078	[3-185]
2079	[273-422]
2080	[212-427]
2081	[76-303],[350-505]
2082	[231-584]
2083	[140-313]
2084	[118-363],[266-463]
2085	[223-444]
2086	[231-455],[310-504]
2087	[13-195],[223-444]
2088	[79-378],[128-358]
2089	[265-432]
2090	[178-330]
2091	[22-180],[131-427]
2092	[12-209]

Seq Id No.	Positions of Open Reading Frame(s)
2093	[39-245]
2094	[167-355]
2095	[12-203],[288-446]
2096	[279-449]
2097	[179-379],[288-476]
2098	[119-313]
2099	[18-239],[223-372]
2100	[168-356]
2101	[85-267]
2102	[54-224]
2103	[3-176]
2104	[280-504]
2105	[18-206]
2106	[196-363]
2107	[10-177]
2108	[193-453],[221-373]
2109	[71-253],[265-495]
2110	[3-215]
2111	[101-256],[160-381]
2112	[11-349]
2113	[19-222]
2114	[125-322]
2115	[47-256]
2116	[127-378],[215-391]
2117	[25-219]
2118	[152-346]
2119	[178-339],[242-439]
2120	[25-204]
2121	[102-320]
2122	[122-379]
2123	[115-378]
2124	[84-248],[182-352]
2125	[12-203],[288-437]
2126	[169-354]
2127	[163-330]
2128	[139-324]
2129	[292-474]
2130	[103-372]
2131	[47-295]
2132	[106-366]
2133	[199-420]
2134	[50-208]
2135	[9-200]
2136	[191-349]
2137	[280-429]
2138	[47-226]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2139	[85-297]
2140	[89-289]
2141	[14-205],[144-449]
2142	[330-494]
2143	[287-466]
2144	[92-256]
2145	[218-406]
2146	[83-259]
2147	[56-244]
2148	[310-462]
2149	[70-237]
2150	[160-315]
2151	[174-440]
2152	[136-330]
2153	[18-239],[223-396]
2154	[20-181]
2155	[103-450],[288-485]
2156	[280-450]
2157	[17-400]
2158	[175-483]
2159	[8-193],[227-472]
2160	[138-311],[247-408]
2161	[24-257]
2162	[17-223]
2163	[106-276]
2164	[75-224]
2165	[79-246]
2166	[66-275]
2167	[197-376],[238-426]
2168	[173-322]
2169	[83-319],[205-384]
2170	[18-497]
2171	[29-214]
2172	[213-431]
2173	[327-476]
2174	[262-525]
2175	[12-209]
2176	[158-379]
2177	[59-346]
2178	[27-338]
2179	[287-457]
2180	[49-243]
2181	[86-265],[172-450]
2182	[135-428]
2183	[206-385],[231-413]
2184	[85-243]

Seq Id No.	Positions of Open Reading Frame(s)
2185	[55-390]
2186	[224-454]
2187	[64-213]
2188	[92-280],[136-306]
2189	[44-478]
2190	[59-448]
2191	[150-314]
2192	[213-467]
2193	[64-321]
2194	[88-315]
2195	[88-315],[363-566]
2196	[21-209]
2197	[158-424]
2198	[132-422]
2199	[4-192],[116-304]
2200	[88-480],[356-520]
2201	[110-268]
2202	[53-214],[308-463]
2203	[93-272]
2204	[129-356]
2205	[181-345]
2206	[208-366]
2207	[257-463]
2208	[113-364]
2209	[36-569]
2210	[39-188]
2211	[32-337],[216-455]
2212	[122-286],[258-458]
2213	[6-386]
2214	[137-439]
2215	[85-252]
2216	[112-363]
2217	[58-306]
2218	[67-381],[360-509]
2219	[98-442]
2220	[217-393]
2221	[55-237]
2222	[57-212]
2223	[29-181]
2224	[5-214]
2225	[44-283]
2226	[189-386]
2227	[56-298]
2228	[201-353]
2229	[48-230],[140-295]
2230	[32-253]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2231	[3-239],[106-255]
2232	[24-242]
2233	[90-431],[295-465]
2234	[27-212]
2235	[20-181]
2236	[107-409],[117-308]
2237	[60-209]
2238	[125-274],[187-357]
2239	[130-306]
2240	[69-323]
2241	[104-421],[222-467]
2242	[63-440],[157-324]
2243	[66-227]
2244	[120-290],[293-460]
2245	[28-234],[137-433],[259-471]
2246	[123-383]
2247	[125-337]
2248	[129-446]
2249	[90-242]
2250	[290-469]
2251	[182-496]
2252	[101-406]
2253	[296-478]
2254	[126-383]
2255	[113-385],[268-492]
2256	[58-270]
2257	[6-155]
2258	[58-270]
2259	[58-450]
2260	[131-298]
2261	[207-380]
2262	[216-368]
2263	[195-356]
2264	[11-169],[237-389]
2265	[133-423]
2266	[226-375]
2267	[187-453]
2268	[153-317],[245-457]
2269	[257-421]
2270	[192-422]
2271	[106-369]
2272	[266-469]
2273	[43-213]
2274	[36-197]
2275	[215-424],[234-389]
2276	[219-407]
2277	[188-409]
2278	[99-254]
2279	[129-293]
2280	[202-432]
2281	[33-212],[216-386]
2282	[82-234],[290-520]
2283	[199-405]
2284	[133-381],[222-533]
2285	[206-367]
2286	[131-349]
2287	[83-394],[238-480]
2288	[218-370]
2289	[110-295]
2290	[62-223]
2291	[188-457]
2292	[130-309]
2293	[46-324]
2294	[202-357]
2295	[47-271]
2296	[182-355]
2297	[54-401],[193-474],[248-475]
2298	[99-269]
2299	[36-242],[133-333]
2300	[53-274]
2301	[33-188]
2302	[25-204]
2303	[226-450]
2304	[165-344]
2305	[87-263]
2306	[13-186]
2307	[301-462]
2308	[189-455],[212-442],[277-498]
2309	[5-154]
2310	[163-345]
2311	[165-473]
2312	[283-450]
2313	[132-281]
2314	[96-281]
2315	[14-232]
2316	[3-254]
2317	[65-304]
2318	[34-201]
2319	[62-370],[225-422]
2320	[135-335],[280-471]
2321	[7-174],[270-422]
2322	[87-326]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2323	[46-207]
2324	[2-166]
2325	[95-265]
2326	[115-294]
2327	[140-349]
2328	[238-399]
2329	[210-413]
2330	[33-230],[149-412]
2331	[123-350]
2332	[80-313],[210-452]
2333	[50-310]
2334	[251-400]
2335	[95-331]
2336	[133-462]
2337	[62-217]
2338	[23-268]
2339	[132-281]
2340	[239-388]
2341	[27-194]
2342	[8-193]
2343	[301-462]
2344	[296-478]
2345	[106-288]
2346	[141-308]
2347	[42-218],[134-319]
2348	[54-260],[254-409]
2349	[27-194]
2350	[11-202]
2351	[34-381],[407-616]
2352	[48-197]
2353	[301-459]
2354	[46-318],[209-478]
2355	[168-350]
2356	[154-315]
2357	[144-353]
2358	[148-432]
2359	[1-195],[141-293]
2360	[209-400]
2361	[70-351],[285-470]
2362	[257-412]
2363	[36-368]
2364	[24-182]
2365	[3-329],[247-480]
2366	[166-402]
2367	[118-285],[269-457]
2368	[266-454]
2369	[13-330],[96-344]
2370	[34-216],[207-452]
2371	[18-191]
2372	[141-515],[247-468]
2373	[219-464]
2374	[74-265]
2375	[219-464]
2376	[261-503]
2377	[203-385],[231-440]
2378	[169-378]
2379	[12-398]
2380	[12-368]
2381	[129-395]
2382	[169-414]
2383	[76-261]
2384	[175-375],[339-569],[425-622]
2385	[190-369]
2386	[49-210]
2387	[64-336],[101-343],[267-515]
2388	[29-232],[78-308]
2389	[211-369]
2390	[33-368]
2391	[78-329]
2392	[159-533]
2393	[23-202]
2394	[170-328],[285-467]
2395	[160-453]
2396	[101-274]
2397	[267-482]
2398	[80-274]
2399	[96-443]
2400	[224-418]
2401	[145-486],[296-466]
2402	[38-202]
2403	[263-415]
2404	[102-305]
2405	[1-411],[65-337]
2406	[112-339]
2407	[77-241]
2408	[59-268],[190-372]
2409	[81-269],[347-514]
2410	[199-399]
2411	[44-238],[102-254]
2412	[192-437],[211-378]
2413	[123-302]
2414	[95-376],[297-467]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2415	[34-201]
2416	[182-487]
2417	[388-687],[751-930]
2418	[105-296],[223-423]
2419	[49-321]
2420	[98-253]
2421	[162-317]
2422	[93-293]
2423	[251-487]
2424	[19-321]
2425	[96-251],[319-486]
2426	[44-259],[300-485]
2427	[38-463]
2428	[17-442]
2429	[16-441]
2430	[66-263]
2431	[143-373]
2432	[66-446]
2433	[190-465]
2434	[52-360]
2435	[341-490]
2436	[35-454]
2437	[42-308],[59-361]
2438	[174-377],[275-433]
2439	[146-310]
2440	[168-428],[313-507]
2441	[99-272]
2442	[6-215]
2443	[155-382]
2444	[180-401]
2445	[161-328]
2446	[63-254],[104-430],[261-410]
2447	[115-321]
2448	[116-298]
2449	[151-423]
2450	[95-289]
2451	[58-222]
2452	[238-387]
2453	[276-467]
2454	[260-448]
2455	[228-398]
2456	[130-282]
2457	[259-450]
2458	[259-450]
2459	[259-450]
2460	[276-467]

Seq Id No.	Positions of Open Reading Frame(s)
2461	[64-552]
2462	[53-217]
2463	[288-446]
2464	[187-336]
2465	[52-390]
2466	[37-372]
2467	[237-509],[329-484]
2468	[72-317]
2469	[214-375]
2470	[125-418],[214-363]
2471	[202-357]
2472	[51-215]
2473	[206-364]
2474	[133-375]
2475	[146-334]
2476	[149-298]
2477	[28-204]
2478	[105-332]
2479	[38-211]
2480	[124-489],[284-502]
2481	[235-516]
2482	[18-254],[103-390]
2483	[149-298]
2484	[172-489]
2485	[271-528]
2486	[231-410]
2487	[137-301],[204-386]
2488	[177-401]
2489	[108-266],[134-292]
2490	[226-387]
2491	[257-406]
2492	[175-405]
2493	[124-498]
2494	[256-426]
2495	[56-250]
2496	[8-367],[160-465]
2497	[109-396]
2498	[153-437],[298-483]
2499	[288-443]
2500	[10-195]
2501	[131-334]
2502	[22-213]
2503	[22-444]
2504	[191-376]
2505	[39-527]
2506	[31-261]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2507	[81-326],[266-469]
2508	[22-255]
2509	[22-270]
2510	[264-452],[313-483]
2511	[16-165]
2512	[57-236],[202-462]
2513	[107-376]
2514	[171-449],[247-498]
2515	[37-192]
2516	[279-545]
2517	[74-274],[298-468]
2518	[86-325]
2519	[300-455]
2520	[65-454]
2521	[68-238]
2522	[49-228],[276-446]
2523	[20-349],[165-473]
2524	[20-349],[165-473],[412-567]
2525	[2-238]
2526	[68-223]
2527	[119-313]
2528	[21-326]
2529	[13-165]
2530	[105-314]
2531	[111-410]
2532	[171-389]
2533	[22-318]
2534	[80-247]
2535	[232-402]
2536	[115-339],[243-464]
2537	[160-405]
2538	[261-476]
2539	[85-297]
2540	[284-442],[351-521],[524-904]
2541	[170-346]
2542	[189-455]
2543	[49-243],[275-457]
2544	[143-418],[154-306]
2545	[257-454]
2546	[4-270]
2547	[56-277]
2548	[197-364]
2549	[168-365]
2550	[220-399]
2551	[193-348]
2552	[113-391]
2553	[83-274]
2554	[14-286]
2555	[30-344],[310-477]
2556	[241-390]
2557	[60-221]
2558	[73-261]
2559	[115-288]
2560	[107-289],[180-437],[356-505]
2561	[90-368]
2562	[182-379]
2563	[168-380]
2564	[9-221],[37-306],[215-433]
2565	[18-272]
2566	[256-429]
2567	[108-266],[169-360]
2568	[72-335]
2569	[326-556]
2570	[132-281]
2571	[68-238]
2572	[25-231]
2573	[57-224]
2574	[497-826]
2575	[264-422]
2576	[60-215],[202-447]
2577	[57-212],[124-411]
2578	[57-212],[124-411]
2579	[91-246]
2580	[210-392]
2581	[110-328],[270-449]
2582	[69-308],[250-429]
2583	[110-328],[270-449]
2584	[1-207],[355-609]
2585	[166-420]
2586	[119-334]
2587	[53-208],[372-539]
2588	[92-283],[247-501]
2589	[48-326]
2590	[214-456]
2591	[233-439]
2592	[9-368]
2593	[32-220]
2594	[142-432],[221-388]
2595	[4-186],[302-475]
2596	[4-168]
2597	[91-270]
2598	[132-305]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
2599	[67-228]	2645	[147-335]
2600	[57-245]	2646	[147-335]
2601	[65-310],[211-366]	2647	[285-443]
2602	[117-290]	2648	[275-469]
2603	[128-331],[255-452]	2649	[212-391]
2604	[2-151],[301-495]	2650	[41-271]
2605	[287-490]	2651	[20-184],[103-258]
2606	[12-191]	2652	[229-462],[398-568]
2607	[2-166]	2653	[204-437],[373-540]
2608	[158-331]	2654	[185-355]
2609	[9-314]	2655	[298-465]
2610	[179-358],[259-411]	2656	[121-273]
2611	[217-450]	2657	[26-406]
2612	[279-443],[446-697]	2658	[28-222],[173-334]
2613	[64-249],[253-417]	2659	[11-172],[165-335]
2614	[2-217],[362-526],[529-780]	2660	[113-295],[126-398],[301-456]
2615	[101-253]	2661	[73-285],[107-337]
2616	[164-400]	2662	[38-286]
2617	[285-458]	2663	[164-454]
2618	[286-447]	2664	[44-208]
2619	[146-322]	2665	[164-355]
2620	[66-464],[76-249]	2666	[113-358]
2621	[281-460]	2667	[2-205],[186-338]
2622	[56-226],[138-332]	2668	[129-329],[226-552]
2623	[147-335]	2669	[219-431]
2624	[147-335]	2670	[17-169]
2625	[147-335]	2671	[93-251],[157-402]
2626	[147-335]	2672	[60-284],[169-348]
2627	[147-335]	2673	[63-308]
2628	[147-335]	2674	[135-299]
2629	[147-335]	2675	[473-652]
2630	[147-335]	2676	[253-447]
2631	[147-335]	2677	[49-222]
2632	[147-335]	2678	[152-337]
2633	[147-335]	2679	[23-220]
2634	[147-335]	2680	[116-283],[258-419]
2635	[199-357]	2681	[116-283],[258-419]
2636	[147-335]	2682	[247-453]
2637	[12-374]	2683	[93-299],[445-594]
2638	[124-324]	2684	[19-315]
2639	[147-335]	2685	[75-281]
2640	[113-409]	2686	[261-422]
2641	[110-310]	2687	[195-350]
2642	[34-213],[84-443]	2688	[206-364]
2643	[147-335]	2689	[26-226]
2644	[165-374]	2690	[26-424],[90-245]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2691	[282-470]
2692	[203-355]
2693	[144-302],[154-330]
2694	[250-501]
2695	[85-336]
2696	[15-197],[197-445]
2697	[12-275]
2698	[248-397]
2699	[65-229],[229-408]
2700	[325-489]
2701	[4-420]
2702	[233-397]
2703	[191-442]
2704	[202-387],[230-415]
2705	[105-446]
2706	[83-418],[219-431]
2707	[137-337]
2708	[179-412]
2709	[234-410]
2710	[52-252],[263-448]
2711	[11-232]
2712	[269-472],[300-485]
2713	[142-435]
2714	[21-230]
2715	[21-230]
2716	[103-327]
2717	[343-504]
2718	[42-263]
2719	[3-176]
2720	[46-249],[293-481]
2721	[1-156]
2722	[131-388]
2723	[71-379]
2724	[71-379]
2725	[333-683]
2726	[103-261]
2727	[151-360],[341-505]
2728	[105-377]
2729	[74-250],[129-401]
2730	[57-329]
2731	[16-234]
2732	[26-193],[81-287]
2733	[217-387]
2734	[198-380]
2735	[63-221],[170-481]
2736	[142-294],[189-389]
2737	[110-271]
2738	[13-162]
2739	[41-226]
2740	[46-471],[95-259]
2741	[163-312]
2742	[125-316],[235-444]
2743	[30-329]
2744	[97-288]
2745	[95-454]
2746	[93-416]
2747	[12-191]
2748	[41-232]
2749	[77-241]
2750	[115-354]
2751	[93-257]
2752	[231-440]
2753	[8-202],[78-323]
2754	[59-307]
2755	[362-514]
2756	[46-264]
2757	[139-525]
2758	[39-356]
2759	[48-341]
2760	[125-445]
2761	[147-497]
2762	[81-254]
2763	[81-374]
2764	[276-440]
2765	[115-405],[360-509]
2766	[64-306]
2767	[135-314]
2768	[64-306]
2769	[64-306]
2770	[24-266]
2771	[58-237]
2772	[170-448],[351-506]
2773	[118-267]
2774	[285-497]
2775	[134-472]
2776	[338-487]
2777	[109-351]
2778	[256-411]
2779	[130-438]
2780	[73-429],[350-502]
2781	[189-581]
2782	[88-249],[194-355]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2783	[119-328]
2784	[299-499]
2785	[90-491]
2786	[16-210]
2787	[91-315]
2788	[123-449]
2789	[174-344]
2790	[10-297],[281-487]
2791	[20-313]
2792	[3-161],[473-700]
2793	[216-431]
2794	[74-226],[154-342]
2795	[94-276],[224-454]
2796	[96-278],[226-459]
2797	[96-278],[226-459]
2798	[96-278],[226-456]
2799	[95-277],[225-461]
2800	[96-278],[226-432]
2801	[96-278],[226-456]
2802	[96-278],[226-456]
2803	[95-277],[225-431]
2804	[95-277],[225-458]
2805	[94-276],[224-472]
2806	[89-268]
2807	[276-434]
2808	[227-433]
2809	[187-495]
2810	[293-487]
2811	[313-486]
2812	[171-458],[176-325]
2813	[235-399]
2814	[30-392]
2815	[69-233]
2816	[364-546]
2817	[6-158]
2818	[34-201]
2819	[142-396]
2820	[57-224],[227-454],[743-922]
2821	[167-361]
2822	[114-275]
2823	[126-377],[230-502]
2824	[144-374]
2825	[14-190],[195-464]
2826	[94-270]
2827	[199-456]
2828	[111-323]
2829	[155-391],[168-353]
2830	[82-372],[375-533]
2831	[79-228],[179-334]
2832	[181-588]
2833	[74-271]
2834	[103-330],[338-508]
2835	[99-308]
2836	[33-230],[286-462]
2837	[100-276]
2838	[109-261],[161-490],[336-515]
2839	[11-205],[307-468]
2840	[130-333]
2841	[21-182]
2842	[85-267]
2843	[216-395]
2844	[111-335],[272-499]
2845	[126-467],[193-504]
2846	[92-433],[159-470]
2847	[95-436],[162-473]
2848	[92-433],[159-470]
2849	[16-180]
2850	[12-161],[127-282]
2851	[258-416]
2852	[78-233],[344-511]
2853	[84-275]
2854	[76-324],[221-403]
2855	[259-465]
2856	[88-513]
2857	[271-426]
2858	[7-198],[179-343]
2859	[119-334]
2860	[219-398]
2861	[225-455]
2862	[161-412]
2863	[121-273],[243-575]
2864	[173-322]
2865	[4-162],[303-455]
2866	[238-405]
2867	[160-333]
2868	[468-617]
2869	[49-201]
2870	[189-455]
2871	[189-455]
2872	[177-368]
2873	[180-338]
2874	[93-257],[242-430],[310-486]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2875	[93-257],[242-493]
2876	[110-463],[147-326]
2877	[380-595]
2878	[153-359]
2879	[177-488]
2880	[268-474]
2881	[23-253],[133-552],[267-491]
2882	[243-434]
2883	[85-258]
2884	[347-556]
2885	[169-381],[311-460]
2886	[63-242]
2887	[97-297]
2888	[173-484]
2889	[202-432]
2890	[37-348]
2891	[48-455],[274-486]
2892	[68-406]
2893	[14-328],[58-393]
2894	[22-204]
2895	[69-326]
2896	[73-255],[155-325],[310-513],[437-586]
2897	[10-216]
2898	[7-357],[41-205]
2899	[81-353]
2900	[40-456],[203-484]
2901	[34-201]
2902	[99-704],[493-651]
2903	[34-201]
2904	[199-354]
2905	[139-303]
2906	[108-374],[169-387]
2907	[175-507]
2908	[267-533]
2909	[32-235],[132-293]
2910	[287-460]
2911	[177-521]
2912	[64-354]
2913	[22-225]
2914	[174-335]
2915	[236-469]
2916	[174-356]
2917	[33-296]
2918	[34-201]
2919	[94-498]
2920	[38-208]
2921	[62-268]
2922	[79-402],[173-358]
2923	[224-472]
2924	[326-490]
2925	[114-359],[136-285]
2926	[88-276]
2927	[270-431]
2928	[213-422]
2929	[278-454]
2930	[207-461]
2931	[25-210]
2932	[341-490]
2933	[117-305]
2934	[180-437]
2935	[123-407]
2936	[101-394]
2937	[25-252],[312-500]
2938	[53-676]
2939	[44-262]
2940	[25-210]
2941	[81-359]
2942	[11-268]
2943	[163-345],[305-508]
2944	[23-364]
2945	[120-410],[367-543]
2946	[43-321]
2947	[132-317]
2948	[22-408]
2949	[18-209]
2950	[37-222],[95-397]
2951	[179-472]
2952	[102-476],[259-525]
2953	[34-201]
2954	[190-486]
2955	[3-215]
2956	[34-201]
2957	[34-201]
2958	[121-447],[203-433]
2959	[380-532]
2960	[34-201]
2961	[124-288]
2962	[143-355]
2963	[94-465]
2964	[80-286]
2965	[273-443]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
2966	[76-384]
2967	[34-216],[227-385]
2968	[116-286]
2969	[66-305],[353-520]
2970	[160-390],[260-481]
2971	[310-462]
2972	[181-369]
2973	[116-280]
2974	[48-347]
2975	[304-549]
2976	[187-399]
2977	[192-353],[196-369]
2978	[297-494]
2979	[20-463],[247-489]
2980	[35-331],[172-483],[213-419]
2981	[44-196],[247-513]
2982	[60-434]
2983	[75-227]
2984	[12-260],[202-369]
2985	[575-769]
2986	[63-467],[205-393]
2987	[115-288]
2988	[34-201]
2989	[195-350]
2990	[244-411]
2991	[180-515]
2992	[195-428]
2993	[202-432]
2994	[8-181],[295-477]
2995	[202-459]
2996	[39-371]
2997	[48-332],[178-414]
2998	[120-431],[253-504]
2999	[104-271]
3000	[265-441],[291-467]
3001	[110-271]
3002	[248-439]
3003	[336-515]
3004	[85-300],[191-373]
3005	[141-536]
3006	[203-361]
3007	[127-453]
3008	[127-297],[200-457]
3009	[114-284],[187-441]
3010	[112-267],[153-413],[179-337]
3011	[25-462],[191-358],[222-392],[492-
	698]
3012	[120-401]
3013	[135-293],[212-361]
3014	[46-432]
3015	[3-215]
3016	[277-495]
3017	[182-445]
3018	[354-509]
3019	[129-281]
3020	[73-249],[146-433]
3021	[161-439]
3022	[82-393]
3023	[200-391]
3024	[134-469]
3025	[114-491],[388-582]
3026	[20-217],[190-354]
3027	[13-162],[513-713]
3028	[57-218]
3029	[114-464]
3030	[123-356],[169-360]
3031	[85-234]
3032	[248-418]
3033	[144-368]
3034	[295-477]
3035	[219-446]
3036	[56-340],[111-374]
3037	[67-366],[261-461]
3038	[395-553]
3039	[226-432]
3040	[204-365]
3041	[8-160],[180-389],[223-420]
3042	[209-475]
3043	[90-278]
3044	[141-326]
3045	[88-273],[312-518]
3046	[75-236]
3047	[136-354],[245-508]
3048	[177-359]
3049	[38-262],[87-308]
3050	[183-455]
3051	[183-461]
3052	[104-562]
3053	[147-782]
3054	[257-418]
3055	[53-367]
3056	[118-273]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
3057	[261-446]	3103	[337-486]
3058	[140-403]	3104	[147-356]
3059	[229-444],[320-481]	3105	[231-410]
3060	[188-391]	3106	[193-402]
3061	[135-341]	3107	[207-368]
3062	[149-355]	3108	[137-286]
3063	[116-286]	3109	[201-512]
3064	[93-431]	3110	[91-294],[194-379]
3065	[20-382]	3111	[261-455]
3066	[171-380]	3112	[36-287]
3067	[222-392]	3113	[60-293]
3068	[23-259]	3114	[68-265]
3069	[112-282]	3115	[182-346]
3070	[121-417],[230-484]	3116	[160-441]
3071	[69-422]	3117	[83-496],[228-452]
3072	[16-240],[295-450]	3118	[313-480]
3073	[81-392],[97-306]	3119	[34-201]
3074	[94-345]	3120	[39-188],[98-466]
3075	[240-410]	3121	[79-501]
3076	[34-204],[231-425]	3122	[79-501]
3077	[109-285]	3123	[293-460]
3078	[57-299]	3124	[69-296],[128-478],[315-479]
3079	[22-231]	3125	[69-296],[128-490],[315-491]
3080	[122-286],[279-428]	3126	[12-203],[360-707]
3081	[105-299]	3127	[269-478],[333-503]
3082	[56-277]	3128	[165-407],[310-477]
3083	[249-434]	3129	[72-443],[112-342]
3084	[214-453]	3130	[2-205]
3085	[61-255]	3131	[135-299]
3086	[25-231]	3132	[57-230]
3087	[144-320]	3133	[90-281],[300-509]
3088	[144-320]	3134	[84-275],[294-449]
3089	[144-320]	3135	[53-244],[263-418]
3090	[144-320]	3136	[84-281],[300-455]
3091	[144-320]	3137	[7-303],[95-250]
3092	[144-320]	3138	[253-408]
3093	[43-240]	3139	[6-578]
3094	[253-411]	3140	[141-377]
3095	[213-410]	3141	[171-515]
3096	[17-484]	3142	[92-253]
3097	[208-423]	3143	[185-346]
3098	[184-360]	3144	[66-299]
3099	[159-431]	3145	[410-604]
3100	[135-362]	3146	[85-291]
3101	[209-373]	3147	[205-486]
3102	[96-425]	3148	[150-302]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
3149	[292-558]	3195	[63-389]
3150	[102-521]	3196	[204-377]
3151	[99-476]	3197	[5-226],[339-494]
3152	[26-277],[225-482]	3198	[119-307]
3153	[150-329]	3199	[50-226]
3154	[142-417]	3200	[110-313]
3155	[202-474]	3201	[28-198]
3156	[160-381],[419-589]	3202	[161-337]
3157	[53-337]	3203	[75-380]
3158	[36-251]	3204	[101-415]
3159	[53-337]	3205	[116-403]
3160	[122-382],[258-494]	3206	[154-396]
3161	[53-337]	3207	[129-320]
3162	[165-341]	3208	[178-351]
3163	[9-263],[64-282]	3209	[173-421]
3164	[196-423],[233-445]	3210	[70-297]
3165	[167-490]	3211	[102-500],[266-493]
3166	[58-264],[254-418]	3212	[4-153],[149-322]
3167	[17-202]	3213	[147-335]
3168	[117-299],[299-469]	3214	[100-294]
3169	[101-265]	3215	[69-359]
3170	[224-388]	3216	[100-294]
3171	[124-321],[255-410]	3217	[285-521]
3172	[557-736]	3218	[36-491]
3173	[128-322]	3219	[89-358]
3174	[63-356]	3220	[100-294]
3175	[93-266],[235-414]	3221	[119-460]
3176	[70-300]	3222	[29-211]
3177	[279-434]	3223	[160-492]
3178	[30-422]	3224	[3-164]
3179	[161-364]	3225	[120-281]
3180	[51-233],[170-373]	3226	[41-217],[217-462]
3181	[112-282]	3227	[100-480]
3182	[52-282]	3228	[198-437]
3183	[12-266]	3229	[44-244]
3184	[75-260]	3230	[27-536],[184-384]
3185	[151-414]	3231	[27-389],[184-468]
3186	[35-193],[135-407],[274-537]	3232	[85-252]
3187	[50-199]	3233	[214-366]
3188	[60-233],[154-444]	3234	[109-360],[296-463]
3189	[22-171]	3235	[32-295],[314-478]
3190	[102-263]	3236	[115-411]
3191	[127-288]	3237	[115-342]
3192	[183-404]	3238	[115-474]
3193	[370-558],[521-718]	3239	[62-292],[181-609],[405-590]
3194	[132-284],[289-456]	3240	[187-402]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3241	[62-292],[181-570],[408-653]
3242	[266-475],[375-524]
3243	[120-326],[160-444]
3244	[63-248]
3245	[389-553]
3246	[150-353]
3247	[157-360]
3248	[217-381]
3249	[212-370]
3250	[90-269]
3251	[90-314]
3252	[90-302],[184-483]
3253	[90-269],[184-414]
3254	[91-408]
3255	[22-339]
3256	[31-252]
3257	[31-189],[125-349]
3258	[284-523],[303-533]
3259	[85-396],[113-316]
3260	[90-248]
3261	[10-213],[278-460]
3262	[36-305]
3263	[131-466]
3264	[125-427],[312-461]
3265	[146-334]
3266	[164-346],[273-509]
3267	[76-333]
3268	[183-383]
3269	[158-310]
3270	[54-248],[187-414]
3271	[33-239]
3272	[67-285]
3273	[27-218]
3274	[147-335]
3275	[146-433],[288-458]
3276	[123-404],[265-474]
3277	[32-223],[105-473]
3278	[268-420]
3279	[284-448]
3280	[53-208]
3281	[128-376]
3282	[13-255],[108-431]
3283	[245-421]
3284	[45-197]
3285	[18-260],[272-466]
3286	[83-250]

Seq Id No.	Positions of Open Reading Frame(s)
3287	[16-282]
3288	[153-410]
3289	[34-462],[120-344]
3290	[34-186],[176-403]
3291	[34-186]
3292	[34-186],[176-403]
3293	[171-416]
3294	[138-296]
3295	[155-421]
3296	[67-306],[149-301]
3297	[33-329]
3298	[26-331],[72-341]
3299	[50-199]
3300	[211-426]
3301	[334-519]
3302	[83-412]
3303	[204-362]
3304	[142-300],[194-385]
3305	[137-358]
3306	[152-430]
3307	[103-354]
3308	[24-464]
3309	[13-243]
3310	[62-268]
3311	[101-286],[232-444]
3312	[362-562]
3313	[302-499]
3314	[26-190],[298-471]
3315	[72-302]
3316	[183-461]
3317	[172-351]
3318	[30-248]
3319	[312-530]
3320	[4-180]
3321	[307-525]
3322	[199-360]
3323	[13-252],[216-449],[316-477]
3324	[19-168]
3325	[106-393]
3326	[27-242]
3327	[259-480]
3328	[249-401]
3329	[50-208],[217-417]
3330	[50-208],[217-471]
3331	[199-420]
3332	[124-354],[236-391]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3333	[147-296]
3334	[33-209],[104-316]
3335	[268-429]
3336	[95-385],[153-392]
3337	[100-438]
3338	[16-255]
3339	[75-239]
3340	[5-157]
3341	[51-476]
3342	[3-185]
3343	[120-464]
3344	[115-402]
3345	[154-402]
3346	[184-336],[346-507],[351-503]
3347	[184-348]
3348	[74-247]
3349	[357-509]
3350	[165-317]
3351	[127-444]
3352	[97-444]
3353	[217-450]
3354	[291-491]
3355	[291-491]
3356	[141-344]
3357	[211-384]
3358	[152-430]
3359	[3-176],[166-411]
3360	[87-344]
3361	[72-254]
3362	[91-315]
3363	[91-315]
3364	[91-315]
3365	[19-243]
3366	[60-284],[337-516]
3367	[26-250]
3368	[202-405],[408-566]
3369	[237-440]
3370	[172-399],[218-367]
3371	[176-475],[222-371]
3372	[173-337],[219-383]
3373	[201-365],[247-414]
3374	[237-440]
3375	[203-511],[249-398]
3376	[201-545],[247-396]
3377	[200-364],[246-422]
3378	[122-496],[168-317]
3379	[13-282],[138-344]
3380	[147-347]
3381	[172-462]
3382	[302-577]
3383	[132-338]
3384	[48-461]
3385	[58-246],[156-419]
3386	[110-277]
3387	[151-318]
3388	[339-542]
3389	[22-345],[374-565]
3390	[110-277]
3391	[338-487]
3392	[64-393]
3393	[37-360]
3394	[176-355]
3395	[42-452],[244-426]
3396	[66-311]
3397	[161-373]
3398	[222-392]
3399	[75-236]
3400	[82-246],[86-256]
3401	[63-215],[118-402]
3402	[138-326]
3403	[6-161],[211-366]
3404	[1-234]
3405	[196-354],[281-508],[354-506]
3406	[222-572],[505-726]
3407	[22-210],[290-457]
3408	[10-348]
3409	[151-423]
3410	[14-184]
3411	[55-261]
3412	[113-460]
3413	[39-191],[94-285]
3414	[71-223]
3415	[157-342],[215-430]
3416	[19-171]
3417	[1-507],[98-295]
3418	[50-277]
3419	[117-371]
3420	[125-358]
3421	[174-458]
3422	[98-571]
3423	[98-421]
3424	[43-198],[183-386]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)	Seq Id No.	Positions of Open Reading Frame(s)
3425	[96-425]	3471	[37-405],[344-511]
3426	[98-340]	3472	[156-347]
3427	[98-442]	3473	[78-242],[287-436]
3428	[111-341]	3474	[44-256]
3429	[201-350]	3475	[13-198],[179-328]
3430	[618-782]	3476	[27-266]
3431	[13-285]	3477	[37-276]
3432	[22-294]	3478	[239-475]
3433	[152-424]	3479	[173-334]
3434	[263-442]	3480	[253-414]
3435	[218-460],[376-540]	3481	[7-207]
3436	[284-469]	3482	[183-545]
3437	[63-284]	3483	[137-337]
3438	[284-526]	3484	[152-370]
3439	[1-222]	3485	[117-290]
3440	[155-640]	3486	[89-307]
3441	[34-207]	3487	[89-553]
3442	[16-285]	3488	[89-307]
3443	[89-319],[280-504]	3489	[256-411]
3444	[158-322]	3490	[107-454]
3445	[70-261]	3491	[120-359],[338-493],[399-560]
3446	[76-288]	3492	[119-358],[337-492]
3447	[79-360],[171-326]	3493	[205-411]
3448	[73-402],[188-376]	3494	[204-419]
3449	[247-474]	3495	[213-521],[283-456]
3450	[102-395]	3496	[109-264]
3451	[31-231]	3497	[147-359],[160-327]
3452	[13-180]	3498	[186-515]
3453	[13-180]	3499	[56-328],[162-320]
3454	[89-244]	3500	[366-593]
3455	[175-498],[350-538]	3501	[69-239],[205-510]
3456	[248-406]	3502	[112-276]
3457	[248-553]	3503	[119-277]
3458	[313-471]	3504	[54-257]
3459	[114-353]	3505	[15-218],[241-408]
3460	[118-330]	3506	[1-153]
3461	[195-398],[232-462]	3507	[6-206]
3462	[82-252]	3508	[62-250]
3463	[300-461]	3509	[89-313]
3464	[112-303]	3510	[87-242]
3465	[43-342]	3511	[48-272]
3466	[530-742]	3512	[204-476]
3467	[10-189]	3513	[6-209],[307-459]
3468	[303-503]	3514	[46-348]
3469	[191-436]	3515	[17-214]
3470	[152-451]	3516	[34-207]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3517	[21-215]
3518	[452-727],[462-665]
3519	[364-630]
3520	[240-434]
3521	[291-494]
3522	[93-332]
3523	[134-382]
3524	[43-348]
3525	[150-356]
3526	[200-370]
3527	[195-389],[295-579]
3528	[147-482]
3529	[214-435]
3530	[105-254]
3531	[200-376]
3532	[4-171],[149-496],[313-510]
3533	[56-280],[99-344]
3534	[138-347]
3535	[56-244]
3536	[55-234]
3537	[153-326]
3538	[76-321],[282-461]
3539	[57-236],[211-390]
3540	[237-485]
3541	[128-304]
3542	[240-437]
3543	[202-405]
3544	[184-366]
3545	[34-207]
3546	[105-398]
3547	[37-402]
3548	[74-433]
3549	[1-156]
3550	[59-247],[207-401]
3551	[89-250],[186-428]
3552	[135-344]
3553	[21-494]
3554	[34-207]
3555	[185-448]
3556	[185-448]
3557	[34-201]
3558	[16-303]
3559	[287-460]
3560	[159-344]
3561	[30-347],[352-540]
3562	[40-204]

Seq Id No.	Positions of Open Reading Frame(s)
3563	[69-302]
3564	[136-294]
3565	[101-370]
3566	[101-370]
3567	[172-360]
3568	[316-492]
3569	[378-554]
3570	[7-171]
3571	[341-517]
3572	[338-514]
3573	[131-310],[267-425]
3574	[5-244]
3575	[185-361]
3576	[34-207]
3577	[81-269]
3578	[255-404]
3579	[16-195],[62-307]
3580	[109-285]
3581	[91-426],[161-331]
3582	[318-476]
3583	[91-315]
3584	[217-510],[293-451]
3585	[14-304]
3586	[148-396],[165-389]
3587	[28-300]
3588	[170-337],[334-558]
3589	[348-614],[410-622]
3590	[4-177]
3591	[97-255],[255-458]
3592	[72-314],[116-280],[296-532],[348-506]
3593	[90-464]
3594	[84-404]
3595	[255-461]
3596	[175-342]
3597	[108-539]
3598	[130-327],[135-419],[512-775]
3599	[265-924],[500-658]
3600	[80-292],[316-468]
3601	[73-237]
3602	[95-265]
3603	[196-402]
3604	[58-255]
3605	[50-466]
3606	[75-443]
3607	[9-434],[178-486]

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(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3608	[11-220],[174-353]
3609	[326-478],[418-627]
3610	[242-475]
3611	[14-181]
3612	[159-566]
3613	[129-344]
3614	[93-350]
3615	[137-406]
3616	[120-335],[320-469]
3617	[189-353]
3618	[123-575]
3619	[33-296]
3620	[48-416]
3621	[82-300]
3622	[133-282]
3623	[28-366]
3624	[117-476]
3625	[37-393]
3626	[51-239]
3627	[36-452]
3628	[1-486]
3629	[94-309],[524-835]
3630	[121-270],[161-355]
3631	[123-482]
3632	[29-271],[192-476]
3633	[208-402]
3634	[4-156],[48-209]
3635	[82-231],[234-404]
3636	[110-292],[192-389]
3637	[21-257],[227-466]
3638	[112-390]
3639	[215-427]
3640	[16-291]
3641	[19-294]
3642	[16-291]
3643	[174-365]
3644	[250-429]
3645	[37-207]
3646	[4-153]
3647	[246-482],[250-420]
3648	[53-253]
3649	[197-367]
3650	[301-480]
3651	[267-488]
3652	[150-398],[319-522]
3653	[7-216]

Seq Id No.	Positions of Open Reading Frame(s)
3654	[324-554]
3655	[30-347],[209-445]
3656	[46-348]
3657	[46-348]
3658	[145-441]
3659	[180-464]
3660	[179-385]
3661	[180-410]
3662	[76-252]
3663	[295-510],[317-532],[674-865],[711-1043]
3664	[153-416]
3665	[177-380]
3666	[152-415]
3667	[177-383]
3668	[70-333]
3669	[177-380]
3670	[77-364]
3671	[252-401]
3672	[145-432]
3673	[252-401]
3674	[30-242],[166-318]
3675	[252-401]
3676	[96-299]
3677	[65-340]
3678	[188-343],[219-455]
3679	[72-287]
3680	[387-644]
3681	[61-354]
3682	[2-181]
3683	[73-306]
3684	[261-479]
3685	[34-183],[228-425]
3686	[44-232]
3687	[95-250]
3688	[130-318]
3689	[369-521]
3690	[62-493],[192-350]
3691	[42-203],[301-483]
3692	[70-276]
3693	[49-213],[117-458]
3694	[49-234],[117-314]
3695	[132-284]
3696	[63-260]
3697	[110-328]
3698	[106-366]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3699	[242-640]
3700	[60-212]
3701	[95-391]
3702	[131-307]
3703	[92-331]
3704	[92-433]
3705	[31-204],[110-277]
3706	[142-492]
3707	[34-207]
3708	[76-396]
3709	[76-396]
3710	[99-326]
3711	[161-313]
3712	[141-317]
3713	[176-352]
3714	[139-366]
3715	[148-435]
3716	[40-213],[386-703]
3717	[113-430]
3718	[86-403]
3719	[48-503]
3720	[48-341],[331-627]
3721	[194-400]
3722	[122-451]
3723	[90-305],[151-426]
3724	[174-383],[187-429]
3725	[95-310]
3726	[31-483],[369-521]
3727	[360-557],[376-579]
3728	[141-353]
3729	[88-318]
3730	[6-185],[161-394]
3731	[56-388],[300-449]
3732	[111-440],[352-501]
3733	[128-394]
3734	[105-332],[289-444]
3735	[94-366]
3736	[141-353]
3737	[139-294],[333-497]
3738	[9-173]
3739	[67-354]
3740	[225-389]
3741	[191-376]
3742	[345-530]
3743	[13-579],[21-203]
3744	[54-236],[263-484]
3745	[51-233],[260-427]
3746	[84-371]
3747	[54-350],[160-477]
3748	[110-397]
3749	[96-341],[223-381]
3750	[25-348]
3751	[25-348]
3752	[141-353]
3753	[173-382]
3754	[211-414],[236-394]
3755	[126-392]
3756	[136-366]
3757	[31-279]
3758	[81-278],[152-457]
3759	[165-485]
3760	[105-281]
3761	[225-401]
3762	[144-329]
3763	[116-445]
3764	[124-453]
3765	[7-411],[338-502]
3766	[249-434]
3767	[165-395]
3768	[141-353]
3769	[169-348],[290-460]
3770	[215-397]
3771	[364-519]
3772	[88-237]
3773	[2-166]
3774	[390-542],[828-1022]
3775	[134-313]
3776	[28-642],[344-628],[703-852]
3777	[159-362]
3778	[249-428]
3779	[96-248],[137-361]
3780	[96-248],[137-361]
3781	[110-466]
3782	[12-329],[59-466]
3783	[133-300]
3784	[123-323]
3785	[200-382]
3786	[175-396]
3787	[71-502]
3788	[8-175],[294-491]
3789	[18-266]
3790	[99-281]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3791	[155-316]
3792	[163-369]
3793	[122-328]
3794	[258-452]
3795	[108-314]
3796	[102-254],[143-424],[283-432]
3797	[77-283],[317-472]
3798	[77-283]
3799	[107-313]
3800	[96-248],[137-301]
3801	[92-448]
3802	[92-448]
3803	[116-577],[553-906],[788-985]
3804	[142-354]
3805	[34-207]
3806	[249-410]
3807	[146-364]
3808	[208-366]
3809	[97-516]
3810	[35-490]
3811	[162-512]
3812	[87-242]
3813	[11-361]
3814	[17-445]
3815	[11-190]
3816	[138-344]
3817	[93-350]
3818	[165-395]
3819	[181-438],[365-514]
3820	[181-438]
3821	[96-260]
3822	[350-508]
3823	[140-352]
3824	[240-389]
3825	[33-338],[317-487]
3826	[68-355],[396-602]
3827	[141-353]
3828	[189-353]
3829	[98-262]
3830	[220-378]
3831	[8-268]
3832	[219-410]
3833	[195-413],[310-462]
3834	[327-509]
3835	[42-335]
3836	[8-295]
3837	[92-484],[351-548]
3838	[169-429]
3839	[3-224],[220-372]
3840	[3-224],[220-372]
3841	[165-389]
3842	[143-370]
3843	[100-303]
3844	[34-201]
3845	[5-181]
3846	[139-300],[318-491],[376-591],[533-760]
3847	[81-323]
3848	[132-317],[317-469]
3849	[130-402]
3850	[129-401]
3851	[129-401]
3852	[130-402]
3853	[130-417]
3854	[129-401]
3855	[130-417]
3856	[131-403]
3857	[131-403]
3858	[131-403]
3859	[129-416]
3860	[134-379]
3861	[99-356]
3862	[140-421]
3863	[17-166]
3864	[11-220],[58-210]
3865	[100-264],[269-430]
3866	[273-428]
3867	[115-348],[197-466]
3868	[281-445]
3869	[240-440]
3870	[274-492]
3871	[12-170]
3872	[240-440]
3873	[62-364],[273-458]
3874	[276-440],[443-613]
3875	[4-255]
3876	[18-176],[23-232]
3877	[147-359]
3878	[111-335]
3879	[114-335],[281-463]
3880	[2-217],[364-624]
3881	[82-249],[285-458]

TABLE I
(Positions of all ORFs)

Seq Id No.	Positions of Open Reading Frame(s)
3882	[25-480],[293-484]
3883	[24-197]

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
26	1-494;1-380;1-434;1-494;1-557;1-455
28	1-467;3-323;3-487;3-470
30	1-368;1-135
32	1-177;45-519
33	1-186;1-471;1-479;40-259
36	1-454;247-358
38	1-294;4-486;4-486;4-491;12-107;12-107;12-107;12-107;12-105;12-105;12-107;12-107;12-107;12-107;12-107;12-105;12-104;12-105;12-107;12-107;12-105;12-107;12-107;12-107;12-107;12-105;12-105;12-105;12-105;12-107;12-105;12-107;12-94;12-94;12-105;12-105;12-105;12-105;12-105;12-107;12-94;12-107;12-105;12-423;12-105;12-105;12-107;12-107;12-105;12-105;12-105;12-105;12-105;12-107;12-107;12-107;12-105;12-105;32-490
39	1-541;1-424;177-678
40	1-249;1-177;1-176;1-176;19-144
42	1-224;1-320;1-241;1-425;1-241;1-392
43	1-483;1-489;1-450;1-477;2-376;2-445;2-478;2-434;2-495;2-442;2-498;2-234;2-460;2-404;2-484;2-64;2-473;2-419;2-414;2-277;3-449;3-438;12-442;12-412;39-512;39-348;39-502;39-481
44	1-234;1-296;1-339;1-245;1-294;1-326
45	1-324;38-528;38-504;46-496;46-499;47-502;47-511;47-511;47-485;47-464;48-433;48-490;48-544
48	1-535;3-479;30-435
49	1-413;7-432
51	1-293;1-373;1-464;1-465
54	1-491;4-505
55	1-546;1-453;1-441;1-446;1-421
56	1-503;1-485;1-485;1-276;1-367;1-507
63	1-343;1-145;1-343
64	1-225;1-277;1-277
65	1-172;1-174;1-172;1-174;1-174;1-170;1-171;1-174;1-174;1-172;1-174;1-164;1-174;1-174;1-174;1-174
67	1-478;1-476
68	1-323;1-323
70	1-473;1-406
71	1-329;1-329;1-329
72	1-488;3-476;3-453;3-479;3-426;3-356;3-373;4-445;4-461
74	1-415;1-417;1-392
76	1-360;1-486
78	1-429;6-461;12-341;12-395;13-432;13-793;15-458;18-436;18-73;18-313;18-459;18-428

Seq Id No.	Positions of biological 5'ESTs
82	1-92;15-570;15-385;15-418;15-424
83	1-203;1-468;1-442;1-105
87	1-440;130-616;194-674
88	1-78;1-402
90	1-135;1-474;1-210;1-428;1-443
91	1-388;46-118;49-284;51-464;56-402;56-397;56-411;71-217;71-470;71-390;71-463;74-463;77-415;84-470;85-470;85-425;85-399;85-565;85-235;85-463;85-401;85-291;85-409;85-303;85-392;85-416;85-569;86-399;86-405;90-460;95-236
92	1-479;1-399;3-499;3-484;3-502;3-277;3-381;32-482;75-575;75-568;75-551;75-571;75-523;75-570;76-569;94-368;128-586;137-553
94	1-452;1-350
95	1-323;1-326
97	1-462;1-480;59-480;59-475;59-431;59-465;59-576;59-517;59-576;59-557;59-483;59-536;59-498;60-672
99	1-459;1-482;1-466;3-418
100	1-479;1-498
101	1-480;1-214;1-504
103	1-351;1-192
108	1-274;1-453
109	1-500;1-488
110	1-570;19-481
111	1-476;79-570;106-584;106-520;106-233;106-565;106-570;106-570;106-550;106-513;106-207;106-526
112	1-225;1-417;1-370
114	1-494;1-480;1-423;1-451;1-365;1-355;1-451;1-525;1-511
115	1-471;1-480;1-478
117	1-382;75-623
118	1-462;1-481;1-451;1-497;1-436;1-456
119	1-542;1-436;1-537;1-521;1-465
120	1-453;1-441;1-411;1-229
123	1-465;1-407
125	1-371;1-493;1-427
127	1-463;1-70
128	1-495;1-491;1-494;7-498;7-493;7-515;7-495;9-495;9-494;9-440;10-498;10-554;10-414;10-109;11-466
132	1-477;29-367
134	1-422;1-421;1-327;1-421;1-412

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
135	1-452;1-498;1-528;1-528;6-490;6-452;6-481;6-490;6-420;6-173;6-516;6-498;6-461;6-516;6-464;6-516;6-476;6-515;6-463;6-490;6-452;6-410;6-497;6-284;6-476;6-464;6-464;6-496;6-464;6-452;6-462;6-486;6-531;6-461;6-515;6-492;6-507;6-515;6-516;6-531;6-549;6-548;6-486;6-533;6-450;6-452;6-464;6-507;6-530;6-531;6-462;6-516;6-516;6-498;6-507;6-451;6-481;6-484;6-488;6-478;6-452;6-481;6-488;6-569;6-532;7-485;7-488;7-534;7-461;7-403;7-487;7-530;7-484;7-419;7-450;8-437;10-528;10-477;10-485;11-420;15-452;15-360;22-539;22-537;22-490;23-498;23-481;23-539;26-451;31-524;31-528;31-464;31-527;31-552;31-452;31-538;31-481;31-507;31-535;31-464;31-516;31-360;31-569;34-553;34-530;34-539;34-570;34-516;34-532;34-537;34-516;34-553;34-528;34-464;35-516;35-534;35-464;35-255;35-420;35-552;35-475;35-528;35-516;35-498;35-557;35-498;35-516;35-452;35-516;35-498;35-534;35-516;35-548;35-568;35-516;36-451;38-528;38-498;39-516;44-314;56-528;56-547;56-481;56-561;56-515;56-548;56-384;56-563;56-452;56-452;56-564;56-549;56-539;56-552;56-536;56-552
136	1-416;1-101
137	1-495;1-466;1-461;1-473;1-390;1-407;1-346;1-502
138	1-332;1-495
139	1-444;1-434;1-441;1-410;1-443;1-387;1-438;1-467;1-468;1-437;283-646
140	1-497;1-459;1-481;1-490;1-462;1-492;1-252;1-432;19-136
144	1-446;1-416;1-385;1-524
146	1-448;40-525
149	1-123;9-501
150	1-85;1-320
151	1-439;1-370;25-512;25-465
152	1-487;1-497;1-495;1-272
153	1-501;27-458;27-456;27-458;27-458;27-458
155	1-497;1-376;1-455;1-542;1-443;1-434;1-486
158	1-421;1-515;1-587;1-544;1-283
159	1-481;1-130;1-466;1-490;1-481;1-498;1-423;1-453;1-489;1-480;1-499;1-486;1-495;1-466;1-488;1-473;1-199;1-485;1-492;1-497;1-485;1-488;1-498;1-290;1-533;1-500;1-502;1-495;1-464;1-498;1-514;1-499;1-473;1-507
160	1-509;73-470
162	1-314;236-721
165	1-594;1-466;29-430;29-430;29-434;29-434;59-512
167	1-82;48-260;50-425;50-481
170	1-75;13-510;13-542
172	1-369;1-450;1-419
173	1-376;1-352;1-466;1-94;1-460;3-466;3-469;3-434;3-243;3-468;3-448;4-411;15-447;19-597;38-599;38-316;38-404;40-436;65-535;67-377
174	1-355;29-504;29-444;29-514;29-444;29-513
175	1-458;1-446;1-125;38-111
176	1-86;1-501;1-448;1-477;1-477;1-95;1-185;1-462
178	1-362;1-541;1-300
179	1-303;1-283;1-303;1-172;1-79;1-294;1-293
180	1-417;1-466;1-504;1-475;1-460
181	1-508;1-496;1-542;4-429;5-400;5-102;11-319;11-337;11-526;11-436;31-508;31-240;31-353;31-427;31-353;31-499;31-526;31-444;31-434;31-441;31-461;31-538;31-526;35-132;35-136;35-135;35-136;3
182	1-488;1-403;1-314;1-456;1-472;1-509;1-464;1-488;1-461
185	1-470;138-562
186	1-435;1-485
187	1-419;1-521;8-486
190	1-516;1-374;1-408;1-552;1-516;1-501

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
199	1-451;43-492;45-523
200	1-275;1-433;1-456;1-448;1-450;1-180;1-459;1-292;1-460;1-409;1-452;1-393;1-119;1-292;1-400;1-245;1-334;233-567;250-732;256-696;280-729;280-745;280-703;280-733;280-774;280-611;281-432;281-625;281-453;284-694;284-651;285-651;289-643;290-561;290-554;290-736;291-457;297-643;303-719;303-703;303-691;308-749;308-651;308-576;308-633;308-651;308-475;308-802;314-637;317-636;349-829
203	1-451;1-412
204	1-481;1-505
206	1-372;1-483;1-525;210-701
207	1-105;60-130;87-499
209	1-365;1-452;4-422;4-458;4-169
212	1-452;1-452
217	1-442;8-443;8-443;8-395;8-443;8-96;8-461;8-311;8-431;8-387;8-395;8-443
220	1-480;17-420
224	1-410;19-491;19-492
225	1-564;1-486
227	1-480;1-499;1-422;1-435;1-299;1-416;1-367;1-523;1-356;1-355;1-358;1-508;1-309;1-524;1-484
228	1-283;1-269;1-283
229	1-450;1-430;1-440;1-439
231	1-308;70-351
232	1-454;24-482;28-454;28-494;28-522;28-433;29-439;29-485;33-194;35-433;61-406
235	1-269;12-445;12-481;58-594;58-562
236	1-400;1-400
237	1-481;1-356
238	1-365;25-522;25-486;25-516;51-517;51-663;51-555
239	1-508;6-540;6-453;12-299
241	1-479;10-429
242	1-461;1-516
243	1-504;1-485;1-491;1-446;1-427;1-495;1-498;1-225;1-400;1-513;1-523;1-457;1-556;1-262;1-498;1-403;1-453;1-558
248	1-436;1-473;1-464
249	1-313;1-322;1-322
252	1-425;1-578
253	1-466;1-477;19-512;19-502;19-397;414-672
254	1-442;1-479
259	1-168;1-433
260	1-64;10-467;10-332;17-456;17-459;17-451
261	1-64;10-485;10-508;10-332;10-500;17-456;17-459;17-451
263	1-416;24-492;24-404;24-286;24-397;24-503;24-478
264	1-225;1-141;2-388;2-142;2-446;2-297;2-475;2-451;2-493;2-571;17-230;17-319
265	1-424;1-478;1-171;1-176;1-497;1-383;1-382;1-438
266	1-472;1-552;1-468
268	1-104;1-467;1-467;1-141;1-529;88-588;88-573;88-287;88-545;88-599;88-471;88-579;88-598;88-578;88-554;88-531;88-558;112-477
271	1-477;219-739;219-705;219-628
272	1-135;1-135;2-475;17-418
273	1-264;1-449
275	1-65;29-416;29-374;29-542;29-367;29-420;29-434
277	1-417;1-333;1-349;1-407;1-417;1-484
279	1-426;1-511;1-321
280	1-91;1-494;2-82;22-84;23-499;47-100;51-456
283	9-219;9-337;12-276
284	1-473;1-431;1-476;1-298;1-199;1-466;1-474;1-489;1-449;1-420
285	1-426;1-466
287	1-367;32-609;32-525;32-477;32-466
292	1-333;1-281;1-671
293	1-453;32-512;32-484
297	1-496;1-430
298	1-492;1-57;1-369;1-375;1-483;1-363;1-424;1-458
300	1-246;1-248
301	1-455;1-489;1-370
302	1-483;1-195;19-413
303	1-345;6-446;28-496
304	1-491;1-495;1-473;1-361;1-312;1-391;1-469;1-473;1-497;1-541;3-455;3-454;3-365;3-477;3-397;6-572;6-428;6-477;44-497;44-539;44-537;44-501;44-469;44-547;44-456;44-521;44-518;44-473;44-553;45-566;45-558;45-302;45-454;83-571;83-577;83-578;83-560;83-590;83-549;83-566;112-622;112-571
305	1-466;1-462;1-469;1-489;1-522;1-447;9-133
306	1-472;1-479;15-500;15-481;15-239
313	1-494;1-434;1-444;1-509;1-471;4-469;72-570
318	1-175;1-410;1-180;1-434;2-482;2-454;36-518;36-557;36-482;36-188;36-483
319	1-587;1-451
320	1-239;6-444;6-413

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
324	1-463;1-302;1-495;1-496
328	1-427;15-503;15-450;15-432;15-430;15-515;15-461;15-280
330	1-422;1-543;70-520
337	1-638;1-344
338	1-562;52-474;52-474;52-472
341	1-418;1-244;4-475;4-302;34-487
342	1-460;3-451
344	1-478;4-264;4-378
346	1-481;1-476;1-537;1-444;1-378;1-423;1-475;1-502
347	1-461;1-461;7-488
348	1-470;15-352
349	1-384;1-395;63-550;63-509;67-564
356	1-465;29-429;29-429;29-433;29-433;29-522;59-511
361	1-448;2-491;21-223;21-737;21-392
364	1-137;1-441;1-474;1-470;1-322;1-473;1-425;1-413;2-488
365	1-82;48-551;48-525;48-525;48-571;48-530;48-260;48-515;48-475;48-535;48-549;48-531;48-406;48-542;48-597;48-536;48-503;48-527;48-559;48-496;48-519;48-531;48-397;48-541;48-593;48-589;48-556;48-556;48-531;48-535;49-532
368	1-412;1-391;1-381
370	1-342;1-466;1-352;1-257;1-220;1-365;8-426;50-367;50-488;89-513
376	1-506;1-237;28-524;28-473
380	1-449;1-495
381	1-530;1-431
383	1-463;1-410;1-379;1-569
387	1-413;1-217;1-497;1-217;1-418;1-122;1-490;1-486
396	1-332;1-450;3-326;3-449;3-401;3-252;3-297
407	1-473;1-510
418	1-400;1-507;1-422;1-328
426	1-324;1-324;1-320;1-324;1-320;1-320;1-324;1-320;1-324;1-324;1-274;1-324;1-324;1-324;1-321;1-324;1-320;1-324;1-324;1-324
427	1-469;1-480;1-480
439	1-333;32-428;32-352;32-341
440	1-384;1-481;1-388;1-537
449	1-420;1-481;1-503;1-483
451	1-506;1-507
459	1-453;11-492;11-447;11-450;11-431;11-517
460	1-411;1-475
467	1-116;5-480

Seq Id No.	Positions of biological 5'ESTs
470	1-398;1-478
472	1-510;1-437;40-527;40-405
473	1-469;1-378;1-460;66-550
480	1-505;1-465;3-464
504	1-358;7-489
513	1-470;1-137
521	1-461;1-479;1-468
561	1-498;1-504;4-461;18-437
562	1-470;1-76;1-488;1-483
564	1-465;1-480;1-481
566	1-321;1-488;1-381;1-429;1-391;1-369;1-244;1-376;1-458;1-355;1-444;1-458;1-433;1-490;1-177;1-437;1-442;1-345;1-499;1-436;1-458;1-367;1-369;1-490;1-509;1-371;1-493;1-183;1-207;1-466;1-497;1-431;1-363;1-443;1-480;1-261;1-424;1-423;1-391;1-269;1-386;1-390;1-479;1-489
570	1-473;1-486
571	1-426;94-583;94-601;94-523;94-566
573	1-474;1-352;1-496
574	1-467;1-496;1-288
575	1-449;1-406
578	1-387;1-504;1-456;1-455;1-480;1-484;1-456;1-125;1-407;225-643
579	1-472;1-455;1-212;1-473;1-161;1-413;1-467;1-495;1-435;1-383;1-432;1-340;1-420;1-420;1-440;1-388;1-430;1-453;1-510;1-510;1-433;1-279;1-378;1-386;1-437;1-391;34-436
581	1-268;1-454;1-364;1-472;1-480
582	1-402;15-457;15-474;15-424;15-445;20-500;32-458;53-488;53-498;53-475;53-496;53-478;53-509;53-484;53-500;53-499;53-474;53-476;53-478;53-509;53-488;53-486;53-501;53-486;53-501;53-484;53-495
584	1-73;1-538
585	1-513;1-431
586	1-356;2-451;3-460;3-500;27-412;30-460;57-530;129-510
588	1-491;1-302
589	1-489;257-736
591	1-137;1-523;1-492;1-424;1-480
593	1-233;1-228;1-232
597	1-461;1-287;1-256;1-430;15-366
599	1-434;8-521
606	1-301;5-328
611	1-432;1-459;1-451;1-439

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
613	1-437;1-295;1-181;1-433;1-283;1-507;1-370;1-433;1-433;1-425;1-513;1-239;1-468;2-419;3-305;3-303
617	1-494;33-478
622	1-476;1-463
624	1-282;1-448
625	1-475;80-552
626	1-463;1-459
627	1-461;1-492;1-507;1-419;57-522;57-521;138-580
630	1-487;142-607
632	1-476;1-487;1-502;4-478
633	1-459;1-425;1-428;1-446;1-485;1-149;1-451;1-392;1-447;1-441;2-304
634	1-463;1-455;1-464
636	1-464;1-480
637	1-450;1-421;1-421
642	1-471;1-291;1-475;1-432;1-497;1-463;5-197;5-442;5-371;5-411;5-473;5-153;5-495;5-404;5-261;5-96
644	1-353;11-251
645	1-388;1-494;1-501;1-348;1-504;1-546;1-451;1-473;1-475
646	1-333;1-333;1-336;1-208;1-336;1-333;1-332;1-336;1-336;1-336;1-333
649	1-511;1-375;1-488;1-463;1-481;1-440;1-364
650	1-402;1-489;1-473;1-442;1-434;1-479
651	1-511;1-469;1-485;1-448;1-403;1-501;1-443;1-477;1-496;1-470
652	1-354;1-365;1-427;1-489
655	1-456;15-392;15-479;15-502;15-479;15-494;15-491;15-269;15-482;15-412;15-503;15-430;15-477;15-508
657	1-467;1-456;1-429;1-510
661	1-72;1-451
662	1-387;1-487;1-469;1-487;19-90;24-362;24-267
663	1-458;1-383
666	1-469;19-539
667	1-479;1-490;1-467
669	1-504;1-532;1-354;1-532;1-464;1-540
671	1-476;106-506;106-233;106-207
672	1-238;6-443;6-412
674	1-281;1-467;1-469;1-416;1-404;23-451;23-269;23-467
677	1-419;1-497;1-492
682	1-464;1-466;1-508;1-499
683	1-458;1-486;1-485;1-354;1-481;1-446;1-465;1-346;1-495;1-490;1-270;1-482;1-535;1-450;1-499;1-461;1-406;1-435;1-477;1-499;1-373

Seq Id No.	Positions of biological 5'ESTs
686	1-321;1-350;1-259;1-321;1-333;1-320;1-338;1-288;1-168;1-321;1-336;1-347;1-347;1-338;1-321;1-330;1-331;1-347;1-251;1-336;1-330;1-321;1-347;1-335;1-321;1-347;1-347;1-341;1-332;1-320;1-321;1-329;1-347;1-323;2-244;5-468;5-495
687	1-453;1-497;1-486
688	1-499;1-487
689	1-454;6-467;6-465;7-67
690	1-523;9-479
692	1-503;1-467;1-463
694	1-488;1-482;1-423;1-523;1-541;1-425;1-462
697	1-296;1-248;45-136;45-315;45-252;45-304;45-491;45-94;45-224;45-282;45-558;45-210;45-303;45-251;45-272;45-316;45-234;45-319;45-94;45-211;45-215;45-536;45-258;45-488;45-537;45-96;45-473;45-311;45-238;45-403;45-318;45-272
702	1-425;1-480
703	1-423;1-495
704	1-492;1-455;1-381;35-206
705	1-204;1-399;1-479;1-457;1-457;1-179;1-368;1-127;1-409;1-449;1-450;1-467;1-58;1-450;1-452;1-450;1-327;1-402
706	1-378;94-595;94-582;94-584;94-583;94-402;94-552;94-554;94-672;95-610;101-604;101-577;101-620;101-366;105-505;118-596;118-472
710	1-451;1-472
712	1-333;1-391;1-432;15-484
714	1-484;1-503;1-534;2-480;2-469;2-476;2-358;125-483;125-210
715	1-468;1-512;1-492;1-484;1-178;1-491;1-327;1-443;1-509;1-319;1-434;1-491;1-393;1-493;1-180;1-393;1-514;1-443;1-490;1-484;1-477;1-477;1-441;1-525;1-493;1-469;1-490;1-509;1-442;1-461;1-477
718	1-474;1-495;1-462;1-476
719	1-55;1-416;1-482;1-439;1-457;14-492
720	1-423;1-469;2-326;12-469;12-425
721	1-485;1-471
722	1-251;1-419;1-434;1-560;1-490
725	1-470;1-508;1-531
726	1-503;1-431
727	1-371;1-350;32-396
728	1-477;28-389
730	1-480;25-511;25-512

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
731	1-509;13-465;18-463;18-493;18-498;18-499;18-519;18-511;18-257;18-460;18-496;18-307;18-463;19-482;21-492;22-509;22-496;22-499;23-421;26-455
732	1-380;1-345;1-380
739	1-464;18-478;18-511;18-516;18-506;18-483;19-371;19-509;19-301
740	1-123;78-150
742	1-453;1-421;1-494;1-469;5-439;6-467;17-456;17-489;17-465;17-93;17-502
753	1-182;1-76
754	1-344;1-487;8-472;13-475
757	1-453;12-494
758	1-392;1-370;1-381
760	1-355;1-467
764	1-314;1-456;1-472
768	1-466;8-350;13-474;13-544;13-523;19-488;19-490;22-234;22-512;22-226;22-222;39-537;39-430;42-307
769	1-504;1-508;1-480;1-484;1-429;1-485;1-484;1-474;1-482;1-465;1-303;1-523;1-502;4-500;4-476;4-495;4-538;4-504;4-437;4-500;4-519;4-528;4-501;4-495;4-500;4-496;4-498;4-476;4-501
771	1-265;1-450;153-506
773	1-432;1-499;4-386
774	1-476;1-492;1-295;1-479;1-477;1-498;1-472;1-462
775	1-450;1-428;5-420;5-372;5-498
777	1-317;1-439;1-470;1-433;1-432;235-732;235-690;249-603;249-748
778	1-136;28-456;28-526;28-420;28-494;61-360;61-522;61-495;61-331;61-431;61-450;63-558;63-386;64-534;66-457;66-358;66-560;66-342;66-533;70-589;70-320;72-512;73-534;73-542;73-451;73-533;73-512;73-528;73-508;73-541
780	1-520;69-415;101-595;101-585;101-583;101-470;108-595;108-572;108-513;108-588;108-595;108-610;108-595;108-646;108-605;108-577;110-653;247-704
781	1-394;1-491;1-502;1-497;1-502;1-476;1-403;1-470
783	1-484;9-516
786	1-384;1-486;10-515;10-482
787	1-476;1-463
788	1-312;1-310;1-384;7-514;49-401;55-499;55-532;56-552;56-435;56-584;56-521;56-618;56-560;56-567;56-576;56-415;56-521;56-512

Seq Id No.	Positions of biological 5'ESTs
790	1-445;16-474;16-396;27-410;27-465;27-443;28-281;28-249;30-484;30-145;30-330;30-429;30-427;30-462;30-462;30-466;30-444;30-386;30-467;30-459;30-462;30-462;30-410;30-423;30-463;30-494;30-480;30-253;30-405;30-430;30-483;30-379;30-398;30-426;30-410;30-443;30-459;30-442;30-449;30-459;30-427;30-485;30-463;30-445;30-478;30-398;30-458;30-451;30-324;30-453;30-462;30-483;30-432;30-440;30-458;30-494;30-426;30-477;30-334;30-396;30-397;30-447;30-459;30-331;30-444;30-410;30-494;30-482;30-468;30-189;30-444;30-444;30-456;30-494;30-478;30-485;30-466;30-291;30-470;30-485;30-402;30-322;30-410;30-416;30-416;30-468;30-197;30-462;30-448;30-415;30-410;30-469;30-469;30-395;30-474;30-372;30-494;30-449;30-410;30-418;30-410;30-399;30-462;30-468;30-223;30-468;30-416;30-410;30-398;30-430;30-481;30-462;30-448;30-245;30-410;30-420;30-494;30-485;30-365;30-410;30-448;30-485;30-483;30-454;30-457;30-444;30-441;30-150;30-378;30-494;30-442;30-409;30-407;30-478;30-454;30-483;30-474;30-484;30-448;30-409;30-374;30-453;31-396;32-410;32-147;32-443;32-
792	1-484;1-470
793	1-445;1-492;1-419
795	1-492;1-374;1-547;1-355;1-356;1-366;1-547;1-324;1-453;1-476;1-422;18-294
796	1-489;1-160
797	1-443;1-227;3-415;5-215;5-479;5-290;5-453;5-279;5-419;5-477;5-380;6-373;6-413;6-496;6-462;6-343;6-472;6-279;6-297;6-448;6-492;6-313;6-474;6-340;6-485
798	1-461;1-465;5-452;5-425;5-478
800	1-395;1-500;1-450;1-491;1-302;1-367;1-432;1-454;68-577
802	1-444;1-179
803	1-424;1-394;1-466;1-456;1-418
804	1-448;1-422;1-392;1-416
805	1-453;1-484;1-456
806	1-309;17-510
809	1-376;21-129;21-129
811	1-270;1-520;1-117
813	1-191;1-191
815	1-474;1-399;1-465;110-489;110-464;110-263;110-279;110-543
817	1-437;1-413;1-485;5-507;6-265;6-436;6-438;6-434;6-381

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
818	27-510;28-519;28-512;28-517;28-497;28-510;28-512;28-511;28-333;28-515;28-526;28-510;28-488;29-520;30-517;31-316;31-385;31-504;31-509;31-520;31-406;31-494;31-504;31-496;31-511;31-488;31-493;31-524;31-513;31-488;31-488;31-497;31-395;31-337;31-506;31-512
819	17-482;24-512;27-526;28-510;28-517;28-463;28-510;28-488;28-515;28-511;28-333;28-510;28-519;28-512;28-482;28-497;29-520;29-463;30-517;30-483;31-496;31-513;31-478;31-511;31-504;31-478;31-458;31-494;31-316;31-477;31-496;31-509;31-520;31-504;31-488;31-493;31-524;31-497;31-488;31-478;31-442;31-488;31-476;31-337;31-506;31-512
820	1-331;51-332;51-332;51-332
824	1-144;1-351
826	1-466;1-264
827	1-309;1-374;1-255;1-420
832	1-372;1-461;1-281;1-461;1-486;1-486;1-492;1-494;1-479
834	1-224;180-269;180-650
836	1-431;1-486
839	1-272;51-278;51-433;51-482;51-397;51-537;51-537
842	1-403;14-513
843	1-432;74-536
844	1-434;29-526
846	1-431;6-367;6-164;6-503;6-432;6-413;6-424;6-495;6-422;6-369;8-430;8-410;8-409;8-403;8-462
848	1-408;32-308;32-476;32-484
849	1-367;1-491;1-518;1-466;1-505;1-478;1-494;1-492;1-513;1-432
850	1-474;22-377
851	1-431;1-492;1-164
852	1-474;1-370
854	1-402;1-489;7-499;15-344;16-473
855	1-296;1-428;1-484;1-484;1-411
856	1-471;1-473;36-376;36-409;76-440
857	1-426;1-502;1-321
859	1-481;1-382
860	1-344;52-508
861	1-489;1-390;1-465;1-349;15-390;35-148;40-367;40-146;40-504;41-440;41-160;41-506;41-382;41-157;41-386;41-490;41-535
862	1-484;1-502;1-390;1-504;1-409;2-435;2-287
864	1-280;1-483;1-355;1-429;1-448;8-302
865	1-324;1-415;1-451;1-478;1-557;1-481;1-518
867	1-471;1-484;1-463;1-496;1-303;1-373;1-101;4-387;4-398;4-472;4-428;4-366;4-466
868	1-471;1-484;1-463;1-303;1-373;1-491;1-101;4-387;4-398;4-366;4-472;4-428;4-466
871	1-444;1-467;1-443
873	1-210;1-413;1-430;27-79;27-506;27-521;27-432;27-478;27-498;27-509;27-504;27-453;27-101;27-287;27-510;27-493;27-483;27-507;27-101;27-505;27-444;27-506;28-506;28-509;28-465;28-505;28-423;28-478;28-476;28-507;28-490;28-502;28-502;28-431;28-542;28-365;28-506;28-454;28-477;28-280;28-495;28-415;28-478;28-458;28-464;28-284;28-516;28-225;28-491;28-439;29-515;29-411;30-435;33-466;33-499;33-515;35-328;50-285;50-506;50-517;50-517;54-507;54-505
878	1-337;1-473;1-408;1-472
880	1-410;1-422;1-447;1-464;1-450
881	1-351;1-301;11-252;11-442;11-372;15-361;28-276;28-337;28-305;29-500;29-165;29-177;29-425;29-100;29-178;29-165;29-165;29-152;29-110;29-173;29-512;30-439;30-165;30-151;30-506;30-322;30-482;30-178;30-165;30-452;30-141;30-258;30-165;30-294;31-165;31-425;31-158;31-178;31-165;40-272;40-272;40-272;87-323;88-536;226-623;226-695;226-304;226-681;226-688;226-624;226-708
882	1-489;1-449
883	1-295;7-93;17-245;41-508;41-542;41-445
885	1-484;1-309;1-455;1-474;1-321
886	1-456;1-499;1-420;5-200
887	1-455;1-347
888	1-452;1-428;1-272;2-436
890	1-460;1-471;1-525
892	1-517;1-335;1-368;1-514;1-92;1-246;1-385
893	1-431;1-479
894	1-478;20-433;20-437;21-318;37-456;48-119;48-113;51-548;52-240;59-504
897	1-441;8-467
898	1-445;1-159;1-366;1-453
902	1-498;1-477;1-438
904	1-481;1-537;1-443;1-539
905	1-326;1-314;1-368;1-321;1-332;1-365;1-369;1-365;1-365
906	1-485;1-304
907	1-417;1-464;1-449;1-462;1-422

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
908	1-469;1-454
909	1-467;49-419;50-506;50-546;55-381;66-480;67-486;67-573;67-563;68-543;68-467;68-567;68-523;68-511;68-542;68-559;68-544;68-559;68-549;68-530;68-566;68-514;68-559;68-505;68-438;68-707;71-561;71-561;71-568;76-591;76-412;76-612;76-613;83-419;83-620;83-505;83-634;86-607
910	1-467;49-419;55-381;66-480;67-486;68-467;68-438;68-500;72-604;76-412;83-419;83-500
911	1-314;1-452;1-392;9-295;9-317
913	1-304;1-387;1-413;1-405
915	1-245;1-240;1-159
917	1-274;1-181
918	1-439;1-443;1-427;1-333;1-452;1-410;1-462;1-460
919	1-517;1-439;1-443;1-427;1-333;1-505;1-452;1-481;1-410;1-513;1-504;1-456
921	1-374;2-346;2-526
923	1-474;1-370
924	1-404;1-434
925	1-367;1-198;36-373;36-474;36-459;36-521;36-519;36-438;461-898;461-900
926	1-466;1-512;1-522
929	1-338;40-324;42-540;42-538;42-547;42-445;46-500;46-539
930	1-478;1-486
931	1-402;1-413;67-458
932	1-509;1-529;1-484
933	1-438;1-469;1-443;1-501;1-472
936	1-458;1-504
937	1-474;1-429;1-372;2-525;2-443;2-482;2-415;2-472;2-398;2-472;2-480;2-488;2-510;3-443;3-414;3-479;3-456;3-427;3-451;3-477;3-461;27-512;27-486;27-335;27-499;27-601;27-506;27-467;27-331;27-267;27-484
938	1-397;1-462;1-495;1-462
939	1-494;1-489;1-468;1-491;1-513;1-388;1-514;1-486;1-488;1-484;1-521;1-486;1-383;1-401;1-487;1-511;1-490;1-497;1-478;1-483;1-209
940	1-494;1-489;1-468;1-491;1-513;1-388;1-514;1-539;1-486;1-484;1-488;1-486;1-383;1-401;1-487;1-511;1-490;1-497;1-478;1-483;1-209
941	1-463;1-557
942	1-223;1-479
943	1-351;1-476;1-475
944	1-529;20-488
945	1-253;1-263;1-502;1-511;1-463;1-502;1-284;1-369;6-605
946	1-488;1-420;1-479
949	1-482;32-460;32-186;32-510;32-510;32-422;32-507;32-484;32-519;32-333;32-529;32-424;34-533;38-392;38-557;38-482;38-418
950	1-50;1-55;1-353
951	1-446;1-424;1-515
952	1-355;1-508;1-463
953	1-466;5-421;5-433;5-449;5-466
954	1-454;1-476
955	1-274;6-506
956	1-440;12-440;12-428
957	1-227;1-144;1-295;1-435;15-366;144-572;144-628
958	1-525;1-419
959	1-375;1-497;1-370;1-424;1-402;1-363;1-400;1-337;1-437;1-448
960	1-502;1-273;1-317
961	1-525;1-398;1-405;1-461;1-453;1-481;1-467;1-504;1-450;1-510;11-455
962	1-284;1-444;1-323
963	1-334;27-165
966	1-311;1-258;1-309;1-311;1-311;1-307;1-289;1-301;1-296;1-308;1-292;1-298;1-298;1-289;1-301
968	1-437;1-499;34-511;34-548;34-526;34-473;34-496;34-479;34-529;34-496
969	1-495;1-405;1-375;1-491
971	1-492;3-466
972	1-458;1-402;1-420;1-346;1-416;1-471
973	1-412;1-425;1-464;1-472;1-201;1-366;10-137
974	1-219;1-282
975	1-322;24-290
976	1-475;1-479;318-452;318-452;318-452
977	1-385;1-410;1-381;22-366;22-219;46-514
978	1-462;1-463;1-489;1-493;1-414;1-379;1-445;1-473
979	1-427;1-459;1-166;1-334;1-459;1-367
980	1-104;1-481
981	1-405;1-503;1-394;1-415;1-253
984	1-473;1-528;1-477;1-540
985	1-482;1-439
987	1-429;1-410
988	1-488;22-492;31-201;32-473
989	1-380;1-490;1-504;1-501;1-507;1-508;4-369
992	1-497;23-549

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
993	1-465;1-466;1-388;1-433;1-565;1-290;1-471;1-487;1-487;1-190;1-469;2-320
994	1-453;2-464;2-438;2-528;2-459;2-445;2-486;2-519;2-454;2-338;2-359;2-477;2-518;5-495;8-424;8-445;8-518;8-494;8-392;8-367;8-459;8-434;8-488;9-56;47-533;47-367;47-529
998	1-476;3-342
1002	1-470;1-527;1-391;1-462;1-584;1-412;1-193;1-469;1-53;1-495;1-487;1-482;3-152;3-156
1003	1-377;1-211;1-520;1-466;1-395;1-507;1-452;1-486;1-425;1-360;1-410;1-96;1-478;1-387
1004	1-403;1-490
1005	1-418;20-452
1006	1-453;1-469;1-474;1-463
1030	1-461;1-474;4-107;25-222;65-360;65-400;66-310;66-361;66-358;66-214
1031	1-478;2-467;2-483;2-106;3-471;3-460;3-556;24-221;54-503;54-539;54-515;64-359;64-399;65-499;65-360;65-357;65-309;65-213
1032	1-537;1-537;67-165
1033	1-425;1-422;1-390
1035	1-455;1-358
1036	1-110;1-447;1-391
1037	1-317;1-450;1-424
1038	1-319;1-453
1040	1-510;1-481;1-488;1-520;1-503;1-477;1-295;1-405;1-491
1042	1-436;1-479
1043	1-532;4-463;4-269;4-188;6-103
1044	1-516;1-382
1045	1-471;1-470
1048	1-380;2-496;22-490
1051	1-488;1-443;1-461;1-467;1-516;1-469;1-503;1-295;1-422;1-467;1-446;1-209;1-468;1-445;1-440;1-484;1-92
1054	1-325;1-449;1-405;1-457;1-71;1-230;1-406;1-449
1055	1-242;1-228;1-242;1-220;1-242;1-210;1-242
1056	1-369;1-462;1-431;1-486;1-340
1058	1-443;1-450;81-141
1059	1-567;1-449;1-509
1061	1-418;6-382
1062	1-265;1-164;1-181;1-245;1-76;1-268;1-70;1-97;1-264;1-142;1-54;1-126;1-242;1-268;81-402
1065	1-486;1-473;1-466
1071	1-316;1-283;1-269;1-298;1-299;1-305;1-338;1-306;1-282;1-331;1-239;31-455;31-387;39-125;39-529;39-237;39-522
1074	1-463;1-433;1-302;48-557;48-564;48-342;77-550;77-433;77-485;77-498
1075	1-483;1-492;1-424
1076	1-315;1-480
1078	1-480;1-353
1079	1-480;4-491;4-336;4-490;4-493;4-491;4-475;4-470;4-470;4-538;4-491;4-491;4-435;4-394;22-476
1081	1-279;1-201;20-444
1082	1-480;31-410;31-400;31-415;31-251
1083	1-490;1-55;28-396;31-446;42-403;42-413
1084	1-415;7-417
1085	1-369;4-491;6-419;7-485;15-376;15-386
1088	1-148;1-191;2-129;2-150;2-145;2-138;3-149;3-150;27-149;27-123;27-123;28-129;28-144;28-129;28-131;28-129;28-149;28-140;29-129;30-149;31-143;32-148;33-148;33-144;33-183;33-134;33-150;33-150;33-141;33-149;33-137;33-191;33-151;33-147;33-150;33-179;33-134;33-254;33-150;33-149;33-150;33-148;33-150;33-91;33-131;33-122;33-87;33-151;33-149;33-151;33-149;33-150;33-135;33-105;33-150;33-138;33-135;33-151;33-144;34-93;34-150;34-138;34-150;34-129;34-135;34-145;34-149;34-140;34-149;34-148;34-179;34-148;34-131;34-142;34-139;35-140;35-148;35-150;35-135;35-140;35-108;36-136;36-150;36-141
1089	1-484;1-397;1-413;40-519;40-468;40-523;40-204;40-514;40-502;40-526;40-507;40-509;40-528;40-515;40-540;40-394;40-472;40-524;40-491;40-499;40-453;40-416;40-491;40-518;40-532;40-493;40-534;40-512;40-539;40-488;40-515;40-491;40-536;40-518;42-551;106-252;106-582;107-501;107-544;107-577;107-546
1090	1-321;1-318;1-201;1-333;1-333;1-333;1-332;1-329;1-329;1-344;1-333;1-121;1-309;1-346;1-330;1-330;1-345
1091	1-328;1-330;1-489;1-492;1-476;1-518;1-475;1-477;1-590;1-468;1-511;1-468;1-532;1-590;1-142;1-476;1-501;1-486;1-356;1-492;1-624;1-518;1-265;1-94;1-590
1092	1-478;1-484
1093	1-493;1-495;1-139;1-394
1094	1-480;1-494;1-479;1-378;1-505;1-486;1-513;1-453;6-347;9-485;9-454;9-504;9-506;17-117;30-168;30-507;30-506;30-407
1097	1-534;1-534;1-550;1-439;1-398;1-550

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1107	1-465;28-481;28-437;28-492;28-492;28-329;29-373
1109	1-87;1-484
1113	1-484;1-468;1-482;1-433;1-481;1-457
1119	1-248;4-64
1120	1-615;4-538;4-325;4-561;4-615
1122	1-559;12-75
1123	1-141;1-360;1-399
1124	1-497;1-463;1-480;13-506;31-239;31-518;31-524;31-482;31-190;31-479;37-328;37-328;37-212;37-292;37-328;37-522;37-335;38-496;38-543;38-312;61-506;61-526;66-547;66-509;66-486;66-503;66-543;80-551;111-547
1125	1-64;1-440;1-484;1-447;1-470;1-477
1128	1-502;1-456
1132	1-528;2-307
1134	1-454;1-506;1-293
1135	1-473;1-491;1-495;1-449;1-438;1-468;45-495;105-564
1137	1-460;1-268;25-524;33-408
1140	1-63;21-479
1141	1-485;1-482;1-341;1-466;1-494
1144	1-75;1-462;1-208;1-236;1-436;1-351;1-404;1-260;1-463;1-343;1-445;1-365;1-330;1-151;1-435;1-153;1-227;1-365;1-395;1-264;1-382;1-372;1-269;1-244;1-410;1-353;1-344;1-468;1-273
1145	1-239;1-238
1146	1-343;1-337
1147	1-484;83-528
1148	1-448;1-483
1149	1-440;1-429;4-85;6-504
1151	1-503;1-366;1-473;74-529;74-526
1156	1-494;1-130;1-208;1-266
1157	1-537;1-269;1-557;1-292;1-503;21-361
1158	1-335;1-458;1-127;1-268;1-269
1160	1-132;15-205;25-147;56-536
1170	1-447;1-301;1-457;1-228;1-502;1-466;1-499;1-443;1-434;1-519;1-456;1-321;1-477;1-488;1-459;1-404;1-395
1172	1-497;1-494;1-445;1-505;1-488;1-512;1-498;1-495;1-504;1-502;1-461;1-60;1-500;1-498;1-437;1-445;1-522;1-459;1-477;1-371;1-460;1-522;1-511;1-494;1-502;1-440;1-499;1-427;1-483;1-194;1-436;1-422;1-453;1-402;1-377;1-552;1-210;1-564;1-239;1-209;1-456;1-465;1-498;1-393;1-559;1-460;1-494;1-469;1-460;1-469;1-494;1-501;1-478
1173	1-469;1-413;1-357;1-469
1174	1-386;1-425;1-208;1-471;1-482;1-476;1-359;1-498;1-467
1175	1-505;1-390
1177	1-388;1-531;1-442
1178	1-437;1-488;1-490;1-526
1179	1-468;1-391;1-490;1-468;1-340;1-150;1-433;1-371;385-915
1180	1-542;3-480;4-495;4-517;6-490;6-498;6-536;6-488;6-482;6-407;6-498;6-476;6-290;6-480;6-476;6-491;6-465;6-271;6-557;6-474;6-514;6-494;6-74;6-423;6-536;6-416;6-480;6-488;6-474;6-69;6-450;6-406;6-74;6-550;6-550;6-69;13-497;13-534;13-69;13-69;13-292;13-488;13-461;13-515
1181	1-388;1-477;2-448;136-581;136-648;151-604;151-474;151-598;151-679;151-584;151-691;159-530;159-646;159-620;159-658;159-591;166-502;166-639
1182	1-396;1-520;1-503;1-436;1-364;1-567
1185	1-458;1-448;1-446;1-248;1-599;1-371;1-525;1-361;1-533;1-470;1-424;1-465;1-391;1-413;1-447;1-346;1-362;1-441;16-566;16-453;23-495;23-495;23-490;23-491;23-520;25-496;26-431;26-469;28-558;28-505;28-516;28-524;28-554;28-487;28-515;28-516
1186	2-536;2-415;2-502;2-466;2-415;2-525;2-421;3-502;3-548;3-425;3-524;3-472;3-300;3-494;3-494;3-438;3-502;3-505;3-502;3-502;3-494;3-472;3-505;3-269;3-492;3-418;3-355;3-471;3-505;3-525;3-494;3-494;3-236;3-494;3-337;3-505;3-439;3-492;3-502;3-502;3-406;3-523;3-473;3-536;3-57;3-493;3-403;3-456;3-479;3-419;3-502;3-302;3-494;3-525;3-439;3-356;3-337;4-302;5-536;5-505;5-492;5-415;5-361;5-476;5-481;5-502;5-494;5-543;5-476;5-525;5-522;5-337;5-412;6-502;6-536;6-505;6-422;6-502;6-493;6-494;6-492;6-536;6-525;6-422;6-467;6-408;6-478;6-502;6-543;6-525;6-456;6-465;6-415;6-472;6-358;6-502;6-525;6-264;6-473;6-525;6-327;6-502;6-426;6-400;6-426;6-481;6-502;6-213;6-509;6-525;6-425;6-213;6-412;6-361;6-416;6-477;6-522;6-71;6-333;6-426;6-543;6-492;6-543;6-401;6-213;6-536;6-213;6-415;6-418;6-529;6-400;6-415;6-415;6-503;6-213;6-467;6-493;6-424;6-544;6-351;6-459;6-472;6-416;6-505;6-483;6-75
1187	1-470;1-510;2-69;2-382;9-354;31-457
1188	1-77;1-122;1-90;1-108;2-472
1189	1-60;4-408;4-472;4-458;4-445

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1190	1-63;5-380;5-528;5-449;5-477;5-492;5-536;5-386;5-469;5-445
1191	1-438;1-476;1-398;1-437;1-255;1-472;1-467
1192	1-553;1-475
1193	1-574;1-480
1195	1-479;1-375;1-458;1-477
1196	1-454;1-454;31-405;31-447;31-489;31-505;31-543;36-554;36-521
1197	1-262;12-476;16-377;17-448;17-482
1198	1-270;1-461
1200	1-486;1-429;1-472
1202	1-512;1-472
1203	1-486;1-750;1-234;1-198;1-491;1-459;1-471;1-531;1-392;1-388;1-357;1-440;1-208;1-460;1-439;2-150;3-423;3-328;3-161;3-392;3-347;3-368;3-192
1204	1-534;17-207;17-383;17-176;17-407;17-438;18-506;18-474;18-249;18-223;18-501;18-213;18-454;18-475;18-455;18-372;18-407;18-403;18-486;18-165
1207	1-464;1-469;1-491;1-498;1-452;1-398;11-464;11-440;11-476;11-444;11-361;11-473;11-507
1208	1-457;1-424;2-424;2-373;2-396;2-424;33-325
1209	1-396;2-468;2-424;2-373;2-424;2-424;5-487;33-456;33-325
1210	1-512;15-440;35-555;35-601;35-550;35-144;38-500;42-321;42-443;42-550;42-301;42-446;42-480;42-550;42-437;42-158;42-541;42-536;42-490;42-550;42-550;42-550;42-523;42-437;42-547;42-435;42-545;42-550;42-552;42-447;42-456;42-387;42-550;42-550;42-547;42-541;42-543;42-547;42-391;42-395;42-500;42-553;42-547;42-547;42-533;42-498;42-480;42-553;42-543;55-550;59-601;63-534;63-601;63-319;63-308;63-588
1214	1-409;3-549
1215	1-479;1-492;1-412;1-294;1-439;1-473;1-464;1-524;1-498;1-478;1-482;1-449;5-456;6-436;6-317
1216	1-446;1-505
1217	1-328;102-350;102-309
1221	1-476;1-440;1-486
1228	1-534;19-477;19-530;19-426;19-594;19-482
1229	1-284;71-533;71-579
1230	1-504;1-504
1231	1-488;1-438;1-517;1-465;41-473;41-517;41-473
1233	1-238;1-474
1234	1-459;72-489

Seq Id No.	Positions of biological 5'ESTs
1236	1-453;1-369;1-431;1-474;1-471;2-451;21-473;30-485;59-234;231-482
1237	1-454;1-442;1-438;1-443;1-438;1-442;1-433;1-441;1-433;1-437;1-280;1-261;1-336;1-455;1-437;1-437;1-429;2-454;20-195;192-443
1238	1-349;1-470;1-407;1-491;20-177;20-536
1239	1-468;1-468;1-461;1-451;47-162
1240	1-567;1-287;1-459;1-456
1243	1-423;1-437;36-541;36-541;40-453
1245	1-375;1-508;1-516;1-473;1-525;1-437;1-475;1-475;1-522;1-436;1-451;1-462;1-310;1-498;1-481;1-489;1-314;1-427;1-485;1-241;35-478;35-388;35-518;35-526;35-527;36-503;36-545;36-533;39-479;41-526;43-461
1246	1-386;1-461;1-478;1-477
1247	1-486;1-504;1-253
1248	1-305;1-471;1-412;5-411;7-474;7-517;9-527;23-500
1250	1-488;1-411;16-526;16-500;16-380;16-439;16-524;16-486;16-497;16-468;16-296;16-531;16-485;16-277;16-453;16-486;16-280;16-277;16-275;20-451;20-135;20-509;20-507;20-505;20-435;20-452;20-484;20-406;20-496;20-381;20-505;20-460;20-459;20-504;20-505;21-537;21-525;21-519;21-402;21-530;21-501;21-489

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1251	1-467;1-475;1-453;1-437;1-477;1-478;1-371;1-363;1-548;1-375;1-441;3-461;3-475;3-497;3-221;3-361;3-477;3-505;3-272;3-484;3-502;8-465;8-463;8-362;8-501;8-469;8-504;8-376;8-484;8-483;8-464;8-464;8-481;8-466;8-463;8-504;8-339;8-481;8-516;8-474;8-480;8-500;8-490;8-379;8-496;8-437;8-496;8-473;8-531;8-435;8-389;8-468;8-500;8-464;9-545;9-482;9-480;9-409;9-481;9-496;9-313;9-397;9-351;9-494;10-481;10-447;10-481;10-180;10-536;10-371;10-339;10-481;10-501;10-375;10-568;10-434;10-464;10-464;10-428;10-461;10-484;10-382;10-371;10-476;10-161;10-491;10-161;10-498;10-548;10-464;10-453;10-424;10-502;10-477;10-466;10-496;10-354;10-505;10-451;10-484;10-345;10-363;10-513;10-540;10-522;10-233;10-356;10-149;10-464;10-312;10-485;10-465;10-500;10-459;10-336;10-468;10-520;10-522;10-518;10-465;10-406;10-502;10-436;10-468;10-462;10-453;10-438;10-518;10-480;10-496;10-499;10-315;10-191;10-479;10-371;10-482;10-486;10-506;10-496;10-382;10-475;10-481;10-436;10-460;10-472;10-524;10-400;10-296;10-136;10-463;10-482;10-533;10-192;10-443;10-480;10-
1252	1-375;1-363;1-432;1-371;3-221;3-361;3-272;8-432;8-376;8-379;8-362;8-432;8-389;8-339;9-351;9-313;9-409;9-397;10-363;10-382;10-424;10-432;10-428;10-371;10-371;10-132;10-339;10-233;10-345;10-161;10-161;10-406;10-400;10-324;10-426;10-356;10-312;10-336;10-149;10-375;10-191;10-315;10-180;10-371;10-492;10-354;10-382;10-432;10-296;10-136;10-192;10-267;10-82;10-363;10-432;10-432;10-426;10-243;10-161;10-313;10-410;10-364;10-351;10-432;10-420;10-350;10-161;10-74;10-163;10-85;10-390;10-430;10-390;11-363;11-424;12-271
1253	1-271;1-220;7-335;9-160;9-131;9-323;9-179;9-160;9-232;9-335;9-295;9-73;9-135;9-242;9-162;9-477;9-335;9-148;9-84;9-191;9-160;9-528;9-190;9-314;9-266;9-81;9-160;11-270
1258	1-439;1-454;1-453;1-451;1-306
1259	1-444;1-401;1-458;1-525;1-468;1-401;1-454
1260	1-501;35-516;35-554;35-532;35-510;35-514;37-381;45-514;54-534;54-511;54-531;54-346;54-278
1261	1-216;1-459;5-181;5-184;5-171;5-171;5-171;5-184;5-181;5-181;5-68;5-184;5-184;5-651;5-181;5-181;5-180;5-184;5-184;5-171;5-184;5-184;5-181;5-151;5-179;5-180;5-184;5-180;5-184;5-184;5-164;5-160;5-184;5-181;5-126;5-114;5-378;5-181;5-184;5-184;5-86;36-229;36-226;36-226;36-226;36-229;36-229;36-222;36-226;36-229;36-229
1262	1-90;1-73;1-491
1264	1-353;1-409;1-465;1-490;1-357;1-409
1265	1-475;9-540
1267	1-409;1-428;38-516;59-255;59-261;59-260;59-483;59-260
1268	1-498;19-501;21-496;21-465;21-565;21-612;21-469;27-545;28-516;44-482;44-536;44-517;47-549;47-529;47-458;51-434
1269	1-379;1-544
1270	1-492;1-497;1-480
1273	1-435;1-312
1275	1-447;1-479;1-480;1-390;1-476;1-480;78-519
1276	1-430;1-473;1-540
1277	1-461;1-496
1279	1-178;35-482;35-439;35-482;35-413;35-463;36-176
1280	1-472;1-474;51-519;51-527;51-536;51-470;143-274;145-603
1281	1-472;1-492;1-478
1282	1-450;1-451;1-433;1-465;1-474;1-484;1-512;1-458;1-469
1283	1-440;1-435;1-459;1-353;1-479;1-459;1-416;1-420;1-463;1-445;1-468;1-479;122-282;122-519
1284	1-476;1-423;1-369
1286	1-463;1-301;1-457;1-266;1-483;1-518
1287	1-444;1-490;1-437;1-431;1-439
1289	1-420;1-340;1-420;8-338
1290	1-484;1-475;1-499;1-512;1-498
1293	1-484;1-441
1295	1-463;3-459;3-445;3-458;3-462;25-349;25-392;25-467
1296	1-245;21-486;21-428;25-427;27-249;40-333;40-458;40-493;40-475;42-475;42-468;52-452
1298	1-218;1-264;1-472;1-332
1299	1-225;6-105
1300	1-562;2-518;2-505;2-506;3-452
1301	1-446;1-291;6-489;6-457;6-350;6-354;6-354;15-501;16-417;16-373;16-224;16-364;16-443;16-491;16-456;16-213;16-274;19-443

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1302	1-443;1-399;1-453;142-576;171-567;171-441;171-585;173-534;173-607;173-619;173-596;173-638;173-320;173-639
1303	1-349;1-530;13-445;13-502;32-522;32-597;33-464
1304	1-96;1-381;1-459;1-511
1305	1-471;1-464
1306	1-457;10-482;10-484;10-413
1307	1-387;1-485;1-480
1308	1-339;1-221;3-280;24-96;26-249
1311	1-487;1-447
1312	1-407;1-236;1-269;1-90;1-344;1-475;1-460;1-454;1-459;1-416;1-362;1-440;4-454;4-80;17-511;17-295;17-388;17-423;17-182;17-465;17-439;17-467;17-501;17-474;17-516;17-479
1313	1-471;1-347
1314	1-455;6-468;6-504
1318	1-505;1-450
1319	1-562;1-462;1-444;1-428
1321	1-470;27-414;33-227
1326	1-453;1-438;1-54;1-457;1-511;1-176;1-443;1-457;1-509;1-106
1327	1-474;1-469;1-480;2-72;3-293
1328	1-472;1-463
1329	1-411;1-431;1-357;1-444;1-453;1-378
1330	1-480;1-498
1337	1-479;1-480
1339	1-432;5-512;5-247;5-297;18-502;18-512;21-339
1343	1-523;1-453;1-495;1-463;1-415;1-365;1-500;2-415;2-283;2-922;2-442;28-413;28-531;28-922;28-495;28-431;28-504;28-341;28-505;28-417;28-247;28-350;31-340;31-488;31-504;31-339;31-514;31-496;31-501;31-335;31-529;31-487;31-494;31-450;31-546;31-247;31-210;31-495;31-531;31-495;31-532;31-507;31-522;31-504;31-481;31-343;31-480;31-533;31-435
1344	1-82;4-417
1345	1-361;273-692;273-666;273-698;273-358;276-628;278-646;278-694;279-699;279-697;279-654;279-675;279-338;279-643;279-696;279-656;279-697;279-699;279-699;279-698;279-699;279-699;279-646;279-390;279-644;279-693;279-666;279-688;279-699;279-699;279-372;279-699;279-694;279-474;279-684;279-628;279-684;279-696;279-699;279-657;279-695;279-697;279-687;279-696;279-661;279-690;279-692;279-699;279-697;279-699;280-654;280-556;280-614;280-692;280-802;280-683;280-591;280-666;280-483;280-692;280-699;280-599;280-699;280-555;280-562;280-699;280-600;280-390;280-655;280-445;280-681;280-580;280-699;280-613;280-644;280-681;280-690;280-699;280-696;280-680;280-717;280-370;280-696;280-694;280-556;280-675;280-626;280-699;280-685;280-380;280-665;280-674;280-684;280-370;280-666;280-598;280-685;280-699;280-699;280-642;280-579;280-696;280-730;280-677;280-640;280-794;280-696;280-614;280-613;280-696;280-726;280-680;280-692;280-675;280-640;280-376;280-672;280-614;280-699;280-692;280-698;280-697;280-691;280-699;280-685;280-332;280-696;280-677;28
1346	1-361;273-357;276-609;278-626;279-338;279-631;279-553;279-393;279-605;279-620;279-391;279-633;279-466;279-626;279-619;279-471;279-613;279-632;279-629;279-647;279-370;280-473;280-633;280-574;280-392;280-629;280-594;280-546;280-540;280-378;280-618;280-374;280-562;280-594;280-495;280-439;280-611;280-368;280-592;280-539;280-368;280-540;280-585;280-603;280-561;280-368;280-630;280-578;280-616;280-471;280-594;280-592;280-620;280-550;280-616;280-579;280-332;280-494;280-518;280-384
1347	1-397;26-519;26-463;28-382;28-382;30-582;30-142;30-457
1348	1-456;1-400;1-563;2-400;3-434
1355	1-414;1-402;1-492;1-529;1-619;1-533;1-532
1356	1-1108;1-509;380-876
1357	1-327;1-343;1-380;1-323
1358	1-337;1-455;1-509;1-337;1-403;1-481;1-257;1-494;1-523;1-465;1-466;1-412;1-249

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1359	1-488;5-518
1360	1-275;1-263;1-264;1-486
1361	1-445;1-822
1362	1-489;1-483;1-450;1-477;2-434;2-445;2-478;2-536;2-376;2-495;2-442;2-498;2-473;2-460;2-234;2-277;2-414;2-484;2-64;2-404;2-419;3-449;3-438;12-442;12-412;12-642;39-502;39-481;39-536;39-533;39-348;39-514
1363	1-469;86-318;86-361;86-148
1364	1-465;1-489
1365	1-379;1-259;1-432;1-567
1366	1-324;38-504;38-529;43-551;46-499;46-496;47-502;47-464;47-511;47-586;47-555;47-511;47-485;48-433;48-490;96-556;125-639;178-634
1367	1-71;2-131;2-127;19-487
1368	1-462;1-498
1369	1-617;1-216;60-492
1371	1-483;31-511
1375	1-473;1-490;18-394
1376	1-476;1-409
1377	1-256;12-336;12-367;12-487;12-106;12-411;12-359;12-109;12-403;12-409;12-315;12-308;12-388;12-351;12-384;12-390;12-361;12-346;12-385;12-349;12-221;13-349;13-359;13-363;14-209;14-359;14-147
1378	1-278;1-511
1379	1-570;1-368;56-388
1382	1-482;31-579
1384	1-436;32-496;32-500;32-518;32-557;32-509;78-539;78-902
1386	1-289;1-289;1-254;1-333;3-372;23-216
1387	1-61;1-456;1-508;34-473;34-476
1388	1-488;1-61;1-479;1-492
1389	1-613;1-388;1-499;1-475
1391	1-649;1-803;2-342;22-389
1392	1-385;1-471;171-540
1393	1-365;1-498
1395	1-101;1-340
1397	1-165;1-201;1-466;1-430;1-204;1-463;2-181;2-493
1398	1-263;1-477;1-487;1-421;1-490;1-393
1402	1-469;1-496
1403	1-382;2-507;2-524;2-416;2-460
1404	1-79;1-484
1405	1-294;1-455;1-320;1-279;178-481
1406	1-500;1-445;1-389;1-769
1407	1-495;1-496;1-322;1-487;1-568;1-436
1408	1-448;1-328;1-474;1-415;1-485;1-424;1-461;1-134;1-393;1-426;1-506;1-269;1-472;1-483;1-503;1-463;1-473;3-459;3-434;7-515;7-500;7-500;7-441;7-260;7-532;7-386
1409	1-457;1-465;1-421;1-354;1-466;1-411;1-431;1-368;1-81;1-397;1-465;1-417;1-462;1-433;1-434;1-471;1-465;1-442;1-422;1-458;1-462;1-472;1-433;1-451;20-470;26-459;26-475;26-453;26-441;26-471;26-444;26-449;26-422
1410	1-291;1-552
1412	1-475;4-381;15-451;15-440
1415	1-112;7-507;8-526;8-499;8-507;8-581;8-464;8-428;8-508;8-522;8-509;8-432;8-464;8-507;8-482;8-508;8-433;8-476;8-507;8-435;8-297;8-482;8-181;8-313;8-272;8-528;8-528;8-463;8-475;8-528;8-477;10-528;10-537;10-568;10-528;10-363;10-583;10-522;10-461;10-380;10-528;10-509;10-509;10-522;10-472;10-477;10-522;10-497;10-398;10-568;10-522;10-522;10-477;10-508;10-508;10-528;10-453;10-531;10-469;10-508;10-526;10-507;11-360;11-508;11-303;11-507;11-507;11-482;11-562;11-576;11-562;11-482;11-556;12-509;12-363;12-482;13-331;13-511;13-499;13-407;13-482;13-482;14-497;14-362;14-535;14-507;14-480;14-522;14-531;14-482;14-316;14-522;15-577;30-453;30-522;30-467;30-576;30-507;30-482;30-526;30-509;30-140;30-577;30-527;30-556;30-509;30-477;30-556;30-513;30-517;30-427;30-482;30-296;30-499;30-556;30-556;30-397;30-109;30-241;30-528;30-435;30-522;30-556;30-499;30-469;30-315;30-577;31-528;31-526;31-507;31-562;31-482;31-574;31-359;31-510;31-517;31-522;31-528;31-389;31-529;31-507;31-497;31-508;31-407;31-287;31-508;31-464;31-507;31-577;31-507;31-57

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1416	1-309;1-396;1-199;1-309;1-404;1-389;1-382;5-106;5-102;5-106;5-105;5-106
1417	1-353;1-420
1418	1-472;1-65;31-83;31-83;32-82;351-531
1419	1-354;1-509;1-437;1-370;157-510;157-510;157-510;157-513;157-447;157-504;157-421;157-505;157-510;157-488;157-510;157-486;157-510;157-522;157-486;157-523;157-510;157-487;157-525;157-510;157-492;157-492;157-503;157-522;157-510;157-506;157-506;157-473;157-510;157-510
1420	1-484;1-474;1-122;1-490
1421	1-484;5-86;37-493;52-264;52-480;52-493;54-430;54-524;54-539
1422	1-520;1-520
1425	1-544;1-237
1426	1-481;67-670
1430	1-495;1-456;1-473;1-471
1431	1-293;1-592
1432	1-466;39-540;39-553;43-531;43-545
1434	1-424;1-476;1-500
1435	1-466;1-510;1-481;1-449;1-418;1-472;1-450;1-460;1-386
1437	1-466;1-291;1-497
1440	1-443;307-587
1446	1-351;1-484;1-432;1-421
1447	1-470;1-256
1448	1-424;1-461
1453	1-92;15-457;15-686
1454	1-285;2-457;3-403
1455	1-454;1-501;21-388;21-112;21-266;21-355;35-506

Seq Id No.	Positions of biological 5'ESTs
1458	1-437;2-281
1461	1-368;1-335;1-92;1-246;1-474
1462	1-469;1-373
1463	1-446;1-830;79-412
1465	1-410;1-600;15-478;16-494;16-473;16-510;16-475;16-445;16-489;17-433;17-382;17-623
1466	1-457;1-425
1468	1-487;1-487
1470	1-460;1-474;1-505
1471	1-493;1-76;1-484;41-515;41-603
1472	1-353;68-486;69-135;69-357;69-278;69-372;69-459;95-480;95-177
1473	1-348;1-387
1477	1-1111;1-449
1478	1-353;69-516;69-357;69-278;69-372;69-135;95-177
1480	1-51;1-375;1-116;1-305;1-105;7-161;7-113;7-226;7-468;7-118;7-335
1483	1-504;1-474;1-612;1-76;1-482;1-486;1-227;1-468;1-495;1-513;1-483;36-466
1484	1-365;1-450;1-110
1485	1-144;19-429;19-440;32-329;32-495;32-512;32-510;32-512;33-464;33-510;33-506
1487	1-160;2-420;2-424;2-349;2-373;2-217;7-485;12-409
1488	1-520;1-296;1-242;1-295;1-296
1489	1-407;1-436
1490	1-678;1-433;1-499;1-394
1491	1-453;1-329
1493	1-391;1-496
1495	1-407;5-490;5-350;5-445;5-495;5-499;5-448;5-462;5-393;5-468;5-480
1496	1-453;1-510;1-466
1497	1-450;1-475;1-474;1-465;1-463;1-291;1-540;1-463;1-426;1-479
1498	1-488;1-776
1502	1-478;1-485
1513	1-362;1-364;1-297;40-484
1515	1-358;1-335;3-320
1516	1-474;1-521;1-435;1-499;1-421;1-425;1-514;1-456;1-482;1-358;1-498;1-437;1-482;1-481;1-509;1-543;1-467;1-486;1-423;1-510;1-474;1-367;1-514;1-469;1-485;1-515;1-486;1-543;1-449;1-513;1-482;1-447;1-191;1-460;1-439;1-415
1517	1-456;30-487;31-439;37-564;280-752
1519	1-480;1-485;1-493;1-509;1-338;1-425;1-484;1-472;1-419;1-502;1-482;1-457;1-506;1-487;1-476;1-479;1-479;1-468;1-479;77-415
1521	1-532;1-377;1-419;1-430;1-485

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1522	1-279;11-147;11-339;11-169;11-151;11-163;11-106;11-501;11-418;11-276;11-281;11-107;11-135;11-195;11-131;54-477
1524	1-444;1-354;1-438
1525	1-452;14-512;33-495
1526	1-277;11-337;11-149;11-145;11-167;11-161;11-193;11-104;11-133;11-129;11-105;11-279;11-274;52-515;52-541;52-492;52-516;52-534;52-545;52-518;52-531;52-516;52-434;52-589;52-490
1527	1-566;1-295;1-356
1532	1-459;1-232
1533	1-416;1-509
1534	1-475;1-502
1535	1-532;97-597
1536	1-491;4-99
1538	1-496;1-394
1539	1-345;1-501;1-437
1540	1-464;1-524;1-406;1-442
1543	1-478;1-465;1-922;1-475;1-492;1-529;1-488
1546	1-496;1-499;1-477;6-392;6-534;6-535;16-499;16-506;16-290;20-286;52-518;53-492;58-519
1548	1-260;1-496
1551	1-506;1-508;1-459
1552	1-502;2-471;2-463;2-378;2-478;2-400;2-494;2-512;3-139;3-466;3-139;3-139;3-402;3-504;3-503;3-456;3-139;3-465;3-453;3-399;3-471;3-448;3-139;3-456;3-139;3-272;3-139;3-478;3-496;3-537;3-467;3-482;3-139;3-466;3-466;3-265;3-506;3-139;3-139;3-386;3-478;3-521;3-139;4-380;4-469;8-467;40-468;40-520
1553	1-415;1-459;1-679;1-254;1-485;1-385;1-573;1-441;1-385;1-377;1-422;1-423;1-485;1-385
1555	1-546;1-477;1-419
1557	1-466;1-235;1-492
1558	1-339;36-540
1562	1-486;1-490;1-498;1-493;1-331;1-483;1-384;1-409;1-411;1-411;1-485;1-444;1-506;1-440;1-433;1-499;1-398;1-500;1-500;1-524;1-479

Seq Id No.	Positions of biological 5'ESTs
1563	1-438;1-487;1-473;1-395;2-474;3-400;3-326;4-456;4-330;4-474;6-442;6-513;6-461;6-243;7-430;7-246;8-432;8-357;8-487;8-482;8-443;8-502;8-442;8-484;8-413;8-480;8-486;8-457;8-481;8-345;8-495;8-495;8-492;8-509;8-507;8-418;8-458;8-491;8-479;8-491;8-458;8-479;8-486;8-401;8-446;8-382;8-481;8-446;8-495;8-437;8-491;25-455;25-512;25-478;25-475;25-499;25-488;25-486;25-486;25-507;25-488;25-495;25-490;25-486;25-494;25-492;25-451;25-505;25-491;25-495;25-492;25-496;25-515;25-506;25-499;25-488;25-485;25-492;25-449;25-479;25-478;25-485;25-380;25-486;25-457;25-480;26-500;91-488
1564	1-438;1-487;1-473;1-395;2-474;3-326;3-400;4-474;4-456;4-330;6-442;6-461;6-243;7-246;7-430;8-357;8-500;8-413;8-487;8-443;8-432;8-499;8-442;8-486;8-492;8-480;8-437;8-457;8-481;8-498;8-345;8-503;8-491;8-479;8-482;8-484;8-458;8-491;8-479;8-486;8-491;8-446;8-446;8-382;8-481;8-418;8-458;8-495;8-401;25-491;25-486;25-485;25-475;25-488;25-485;25-457;25-380;25-488;25-495;25-478;25-451;25-494;25-492;25-495;25-492;25-495;25-495;25-478;25-495;25-488;25-486;25-486;25-449;25-479;25-492;25-490;25-455;25-486;25-480;26-497;91-522;91-488
1567	1-460;1-451;3-448;3-521
1569	1-546;1-371;1-505;1-673;1-427;1-450;1-496
1570	1-222;1-421;1-509
1571	1-307;1-482
1574	1-552;1-566
1575	1-248;1-503
1578	1-352;1-334;1-404
1580	1-462;1-507;1-215;1-468;1-510;1-410;1-459;1-470
1582	1-131;6-487
1585	1-481;1-492
1586	1-457;1-499
1587	1-74;1-52;1-154;39-492
1588	1-484;1-484;7-106
1591	1-470;22-375;22-219;22-427;22-277;22-447;22-417;22-73;22-412;22-461;22-176;22-374;22-95;44-486;44-332
1592	1-471;22-492;22-510;22-218;22-426;22-509;22-276;22-494;22-512;22-506;22-507;22-518;22-446;22-411;22-460;22-373;22-95;22-374;22-416;22-509;22-513;22-175;22-512;22-507;44-331
1593	1-472;1-611

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1594	1-511;1-427;1-393;1-444
1596	1-71;1-79;1-79;1-71;1-71;1-79;1-71;1-71;1-71;1-71;1-71;1-79;1-79;1-79;1-71;1-68;1-79;1-71;1-79;1-71;1-79;1-71;28-534;28-538;28-526;28-454;28-444;28-514;28-473;28-540;28-87;28-278;28-492;28-535;28-409;28-485;28-488;28-477;28-411;28-348;28-472;28-496;28-436;28-523;28-531;28-349;28-537;28-514;28-534;28-505;28-496;28-506;28-514;28-540;28-535;28-457;28-496;28-127;28-506;28-539;28-523;28-534;28-444;28-514;28-421;28-492;28-493;29-493;29-411;29-523;30-514;30-257;30-473;30-354;30-464;30-411;30-412;30-535;30-514;30-415;30-514;30-462;30-514;30-392;30-536;30-493;30-431;30-514;30-455;30-514;30-514;30-444;30-534;30-536;30-464;30-514;30-514;30-496;30-536;30-532;30-523;30-333;30-514;30-506;30-514;30-436;30-473;30-529;30-405;30-378;30-496;30-465;30-459;30-539;30-514;30-506;30-493;30-464;30-537;30-314;30-493;30-473;30-540;30-436;30-460;30-361;30-514;30-412;30-541;30-492;30-492;30-538;30-349;30-374;31-420;31-539;31-536;31-496;31-490;31-534;31-541;31-492
1599	1-425;262-780
1600	1-462;1-322;1-432;30-527;30-527;30-355
1601	1-427;1-465
1602	1-373;1-400;1-440;1-458;62-464;62-341;113-561
1603	1-456;1-452;14-377;14-466;23-536;23-452;54-555;54-462;54-105;54-488
1604	1-324;242-678;252-672
1606	1-409;64-583;64-489;64-545;64-279;64-526;64-479;64-527;64-558;64-529;64-314;64-544;64-563;64-503;64-551;64-441;64-557;64-562;64-563;64-266;64-409;64-471;64-474;64-478;64-496;64-524;64-503;64-537;64-466;64-522;64-567;64-550;75-353;75-490;75-435;77-570;77-524;77-458;77-316;77-460;77-563;77-581;77-497;77-335;77-272;77-566;77-460;77-503;77-460;77-476;77-563;77-562;77-562;77-541;77-522;77-496;77-561;77-524
1607	1-494;1-480;1-506
1610	1-324;1-491;1-432
1611	1-430;1-394
1613	1-478;1-433
1615	1-481;1-494;1-504;1-509;1-480;1-511;1-500;1-467;1-438;1-504;1-481;1-513;1-385;1-418;1-378
1616	1-954;1-367;1-468;1-465
1617	1-482;1-483;1-363
1620	1-412;1-472
1621	1-423;54-499
1622	1-377;1-495;14-526;14-449;14-475;14-284;14-491;14-483
1624	1-477;1-403;1-302;1-410
1625	1-179;1-393;1-486;1-291;1-483;1-177;1-338;1-521
1626	1-437;1-463
1627	1-429;1-504;1-195;1-508
1629	1-348;1-332
1630	1-143;1-486
1631	1-472;1-472
1632	1-478;1-429;1-485;6-408;7-468;11-484;11-407;13-233;25-504;26-313;26-508;26-436;26-494;26-456;26-521;26-503;26-474;26-545;26-471;26-471;28-502;28-457;28-483;28-499;28-446;28-477;34-430
1634	1-485;1-464
1635	1-245;21-431;21-492;25-430;25-509;27-249;39-529;40-533;40-334;40-460;40-519;40-480;40-493;40-528;40-493;40-570;40-493;40-546;42-508;42-524;42-481;42-527;42-502;42-470;52-454
1638	1-428;5-437
1640	1-450;1-484
1642	1-163;1-456
1643	1-308;1-461;1-461;1-499;1-387;1-465;1-369;1-289;1-279;1-498;1-357;1-404;1-285;1-298;1-438;1-444;1-282;1-277;1-80;1-247;1-355;1-451;1-311;1-600
1646	1-488;1-462;1-466;1-282;1-458;1-461;1-462;1-325;1-333;1-464
1647	1-201;1-201;2-74;2-74;2-201;2-370;2-74;2-74;3-175
1649	1-403;16-483;30-575;44-568;44-535;44-542;44-527;44-568;44-564;44-182;44-405;44-407;44-535;44-420;44-568;44-205;44-581;44-568;44-539;44-406;44-563;44-526;44-250;44-494;44-449;44-525;48-527;51-474;51-559;51-143;51-438;60-574;104-419;117-218;117-568;119-571;119-568;119-542;119-453;119-575;119-575;120-454;120-185;120-576;120-412;123-558;150-413;150-505;150-581;150-579
1650	1-384;1-412;1-413
1652	1-222;1-449;1-458;1-473;1-400;1-385;1-473
1653	1-278;1-493;1-506;1-517
1654	1-429;1-477;1-478;1-505;1-480

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1655	1-452;1-474;1-204;1-467
1658	1-276;1-380;2-398;85-542;85-584;85-554;93-367;93-637;93-470
1659	1-262;1-443;1-58;1-491;1-197;4-459;15-485;17-414;25-552;25-513
1660	1-227;10-422;10-451
1663	1-374;1-581
1664	1-105;1-145;4-489;4-477;4-489;4-737;4-438;4-375;4-498;6-356;6-491;6-407;6-505;6-487
1665	1-485;1-480
1666	1-430;1-641;88-515;88-568;88-566;90-571;135-374
1667	1-105;1-474;1-145;1-456
1669	1-520;1-329;2-473;2-481;2-484;2-423;2-483;2-520;2-422;2-444;2-222;2-470;2-445;2-438;2-525;2-483;2-286;2-480;2-445;2-447;2-483;2-352;2-505;2-447;2-520;2-482;2-585;2-520;2-421;2-223;2-267;2-449;2-478;2-447;2-485;2-464;2-483;2-444;2-452;2-451;2-505;2-523;2-447;2-483;2-505;2-514
1670	1-267;39-267
1671	1-105;1-459;1-145;4-489;4-455;4-531
1672	1-219;1-395;1-458;1-471
1677	1-583;2-601;2-505;2-523;2-490;2-501;2-549;2-95;2-353;2-377;2-581;2-510;2-461;2-554;2-467;2-525;4-469;4-467;4-435;4-449;4-470;4-244;5-412;16-448;39-405;39-501;39-493;39-518;39-500;39-501;39-513;39-595;39-317;41-437;41-562;41-520;41-549;41-560;55-495;68-378
1678	1-398;1-418;1-399;1-407;1-415;1-408;1-401;1-398
1680	1-376;1-352;1-94;3-243;38-515;38-686;38-316;67-377
1682	1-517;19-213
1683	1-433;68-484;68-485;68-463;68-465;68-485;68-484;68-484;68-484;68-484;68-461;68-467;68-452;68-445;68-467;68-483;68-411;68-461;68-460;68-473;68-477;68-484
1685	1-461;1-691
1687	1-390;1-517
1696	1-577;1-469
1704	1-503;1-621
1705	1-486;1-438;1-288;1-440;1-544;1-353;1-478;1-289;1-318;1-456;1-273;1-352;1-509;1-453;1-443;1-436;2-444
1706	1-489;1-312
1707	1-443;43-421;43-509;64-270;72-542
1709	1-347;1-509

Seq Id No.	Positions of biological 5'ESTs
1711	1-509;1-495;1-468;20-479;24-239;27-509;27-336;27-501;30-501;37-485;38-508
1714	1-305;1-481;1-434
1717	1-396;1-437;1-496;1-487
1718	1-476;1-429
1719	1-403;28-476;28-419;28-416;28-442;28-447;28-425;28-406;28-506;39-430
1720	1-511;1-401
1721	1-421;1-350;1-1062;1-355
1723	1-492;1-365;1-323;1-498;1-246;1-351;1-443;1-389;1-271
1726	1-474;1-494
1727	1-457;1-567
1733	1-483;1-466;1-485;1-499;1-479;1-466;1-465;1-483;1-467;1-471;1-492;1-568;1-416;1-498;1-500
1734	1-383;1-510;1-540
1736	1-476;1-505;1-465;1-477;1-477;1-481
1737	1-557;1-617;1-416;1-545;1-712
1738	1-575;1-501;1-649
1740	1-296;1-296;1-296;1-296;1-296;1-296;1-296;1-292;1-296;1-292;1-296;1-292;1-296
1741	1-289;1-478;1-478
1743	1-440;1-440;1-441;1-487
1744	1-512;1-416
1745	1-482;1-767
1750	1-498;1-453;1-486;6-483;6-492;6-365;6-540;6-485;6-465;6-484;6-423;6-486;6-521;6-465;6-514;6-453;6-506;6-489;6-433;6-492;6-478;6-506;6-486;6-465;6-434;6-492;6-484;6-498;6-257;8-464;8-453;18-492;18-492;18-435;18-453;18-431;37-541;40-353;40-525;40-492;40-531;40-511;40-344;40-113;40-529;40-540;40-542;40-541;40-550;40-550;40-492;40-531;41-453;56-571;56-498;56-543;56-559;56-543;56-438;56-531;56-548;56-544;56-542;56-554;56-549;56-587;56-547;56-560
1754	1-462;1-438;1-475
1755	1-466;1-487
1757	1-528;1-700
1758	1-517;8-224
1759	1-409;1-418;3-117
1760	1-127;8-105;9-492;9-186;9-229
1761	1-475;1-455
1765	1-301;1-544;1-374
1770	1-460;1-358;1-421
1771	1-421;1-664
1772	1-414;1-474;1-196;1-581;1-496

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1773	1-472;1-50;1-51
1775	1-425;1-483;1-497;1-502;1-476;1-470;1-470;1-467;1-507;1-480;1-464;1-407;1-502;1-379;1-480;1-477;1-499;1-359;1-335;1-488;1-489;1-469;1-496;1-417;1-517;1-496;1-498;1-392;1-480;1-488;1-546;1-505;1-393;1-497;1-272;1-464;1-503;1-520;1-434;1-497;1-467;1-458;1-488;1-462;1-262;1-378;1-463;1-507;1-86;1-452;1-502;1-445;1-444;1-393;1-497;1-368;1-359;1-505;1-464;1-480;1-505;1-386;1-435;1-423;1-50;1-475;1-392;1-493;1-452;1-509;1-500;1-500;1-500;1-393;1-431;1-556;1-498;1-505;1-489;1-392;1-468;1-489;1-369;1-502;1-435;1-377;1-398;1-409;1-421;1-496;1-467;1-51;1-470;1-499;1-509;1-480;1-439;1-480;1-543;1-502;1-516;1-429;1-491;1-487;1-435;1-500;1-502;1-274;1-393;1-413;1-494;1-464;1-489;1-452;1-328;1-488;1-535;1-554;1-482;1-488;1-464;1-414;1-385;1-469;1-358;1-386;1-392;1-493;1-495;1-386;1-237;1-515;1-339;1-480;1-386;1-240;1-504;2-375;2-456;5-379
1777	1-441;1-462
1782	1-512;1-385
1783	1-297;1-297;8-714;8-493;8-380;8-296;16-297;66-474
1786	1-622;1-509
1787	1-296;1-231;1-304;1-294;1-304;1-308;1-308;1-304;1-308;1-269;1-304;1-304;1-308;1-308;1-308;1-308;1-308;1-304;1-304;1-304;1-304;1-308;1-308;1-304;1-304;1-308
1788	1-435;1-190;1-497
1791	1-518;1-499;1-504;1-508;1-548;1-121;1-450;1-493;1-445;1-500;1-452;1-529;1-417;1-487;1-488;1-499
1792	1-514;1-542;1-517;1-525;1-468;1-558;1-517;1-483;1-502;1-441;1-558;1-160;1-512;1-558;1-428;1-523;1-558;1-517;1-536
1794	1-420;1-477;1-470
1795	1-513;1-477;13-389;16-489;20-462
1796	1-413;1-302;24-433;24-446;24-416;52-462;52-413;52-412;66-554
1797	1-497;1-497;1-331
1799	1-503;1-462;1-486
1801	1-269;12-444;58-465
1802	1-465;1-448;1-509

Seq Id No.	Positions of biological 5'ESTs
1803	1-521;55-499;64-385;72-522;72-402;72-580;72-560;72-479;72-534;72-573;72-524;94-548;95-565;95-407;95-510;95-514;95-540;95-594;95-578;95-521;95-601;95-581;95-540;95-606;99-375;99-559;99-642;99-629;99-494;99-242;99-598;99-565;99-575;99-272;99-559;99-590;99-617;99-590;99-586;99-629;99-585;99-474
1806	1-502;1-483;1-500;3-499;6-459;6-484;6-491;6-504;6-460;6-510;6-503;28-438;28-472;28-344;28-500;28-387;28-479;28-500;28-476;28-491;28-439;29-460;29-438;29-387;29-379;29-504;29-451;29-460;29-458;29-460;29-289;31-503;32-506;33-500;33-460;33-404;33-489;39-327;42-504;48-486;48-490
1808	1-469;1-280;1-456;10-77;10-75;10-75;10-75;10-75;10-75;10-77;10-75;10-75;10-75;10-77;10-75;10-75;10-75;10-75;10-77;10-75;10-77;10-75;10-75;10-77;10-77;10-75;10-75;10-75;10-77;10-77;10-77;10-75;48-411;55-471;55-421;55-459;57-398;66-526;76-418;97-518;99-478;103-475
1812	1-382;1-490;1-473
1814	1-534;1-712
1815	1-516;3-434
1818	1-450;1-519
1819	1-453;1-234;3-425;5-485;5-298;5-222;5-491;5-359;5-463;5-286;5-485;5-429;5-388;6-423;6-472;6-351;6-484;6-286;6-305;6-458;6-321;6-382;6-348;6-495;6-482
1820	1-439;1-580
1822	1-486;1-579;1-476;13-187;15-85;15-85;15-85;15-354;15-85;16-118
1824	1-482;1-460
1827	1-331;17-381;17-428;17-428;51-338;56-402;57-547;57-306
1828	1-446;19-642;19-500
1830	1-449;1-462
1833	1-429;1-517
1835	1-459;1-527;3-558;38-615;38-443;38-478;38-462;68-545;68-513;68-559
1836	1-454;1-458
1837	1-473;1-437;1-486;1-373;1-262;1-438
1839	1-454;1-451;1-466;1-484;1-440;1-452;1-564;1-454;1-445;24-467
1842	1-476;1-455
1845	1-384;9-478;36-491;36-425;115-577;115-444;115-642;115-642;115-463;115-537;115-626;115-546;142-652;142-641
1847	1-461;1-461

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1848	1-462;1-456
1850	1-504;1-526
1852	1-517;1-487;1-452
1854	1-428;1-671;18-508;19-437;21-504;21-595;21-517;21-593;21-494;21-436;21-522;21-514;21-463;21-384;21-443;21-533;21-488;39-415;39-425;66-558
1856	1-440;64-436;64-488;64-404;64-474;64-155;64-385;64-504;64-480;64-507;64-510;74-510
1859	1-408;1-465;1-452
1860	1-78;1-302;1-477;1-477;1-471;1-456;1-326;1-463;1-443;1-454;1-450;1-444;1-477;1-462;1-237;1-354;1-477;1-477;1-444;1-482;1-439;1-480;1-459;1-457;1-431;1-443;1-338;1-314;1-477;1-57;1-460;1-367;1-462;1-263;1-477;1-476;1-435;1-487;1-227;1-433
1862	1-490;1-612
1863	1-463;1-492;1-204;1-344;1-469;1-457;1-464;1-492;1-468;1-498;1-230;1-352;1-391;1-465;1-457;4-596;4-406;24-487;28-458;28-529;28-315;28-526;28-529;29-509;33-520;33-529
1864	1-362;1-468;1-411
1866	1-216;1-436;1-500;1-334;2-418;2-503;9-273
1867	1-430;371-836;373-765;373-870;373-771;374-773;374-870;375-871;376-882;376-865;376-824;378-771;378-763;378-773;378-876;391-764;394-773;394-748;396-702;396-871;401-880;401-826;401-773;401-773;401-768;401-722;401-881;401-934;401-909;401-761;401-900;401-754;401-810;401-884;401-899;401-886;401-899;401-752;401-773;401-765;401-800;401-872;401-772;401-799;401-891;401-871;401-876;401-811;401-836;401-871;404-881;404-764;404-894;404-844;404-888;404-862;404-774;404-889;404-872;404-773;406-764;407-882;407-861;407-674;409-880;409-865;409-884
1869	1-447;1-476
1870	1-498;1-509;1-480
1873	1-487;1-487;1-470;108-604;108-540;536-935
1874	1-501;1-450;1-417;1-448;1-508;1-514
1875	1-514;1-480;1-533;1-726
1877	1-496;1-294;1-667
1879	1-395;78-493
1881	1-212;2-195;2-471;14-457;14-171;14-113;16-192

Seq Id No.	Positions of biological 5'ESTs
1884	1-485;1-406;1-331;1-483;3-488;51-487;51-521
1887	1-501;1-515;1-450;1-417;1-448;1-510
1891	1-522;1-479;44-201;44-600;44-640
1892	1-146;1-443
1893	1-284;1-497;1-431;14-436;61-477
1900	1-491;1-498
1901	1-264;1-559
1904	1-447;1-501
1905	1-540;1-406;1-419;1-464;1-453
1906	1-486;56-158
1907	1-424;1-470;1-413;1-474
1909	1-499;22-396
1913	1-463;1-386;1-397;1-509;1-394;1-393;1-405;1-411;1-487;1-467;1-458;1-465;1-472
1914	1-456;1-322
1918	1-453;1-83;1-419
1919	1-470;1-471
1920	1-524;1-535;1-663
1923	1-234;1-208;1-198;2-150;3-192;3-388;3-161
1925	1-418;1-487
1930	1-404;1-486;1-488;4-468;4-477;4-168;8-352;8-439;8-428;8-367;8-474;8-324
1934	1-530;1-475
1936	1-293;41-386;41-265;41-438;41-402;41-468;41-650;41-400
1945	1-654;1-413;18-491;19-422;21-487;21-578;21-500;21-576;21-421;21-477;21-505;21-497;21-370;21-448;21-430;21-516;21-471;39-410;39-400
1947	1-492;1-1013;1-468;1-193;1-355;1-544;1-481;1-485;1-452;1-442;1-491
1950	1-442;1-477;1-450;1-481;3-533
1951	1-260;1-304;1-427
1955	1-447;1-495;1-432;1-475;1-506
1957	1-439;1-486
1960	1-552;30-501;30-410
1961	1-485;1-531;1-385;1-435;160-668
1962	1-435;1-493;1-508;1-440
1963	1-74;1-83;5-482;7-427;8-482;8-468
1964	1-325;1-427;1-534
1965	1-442;1-490;1-477;1-450;1-486
1967	1-350;1-473;1-393;1-548
1968	1-511;162-531;162-609
1969	1-708;1-486;428-708
1970	1-496;47-209
1971	1-483;171-488;171-482;171-430;171-483

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
1972	1-440;1-474;1-407;1-484;1-570;1-495;1-519;1-415;1-366;1-444;1-542;1-429;1-251;1-198;1-373;1-418;1-466;1-402;1-452;1-377;1-483;1-563;1-306;1-484
1973	24-427;24-446;24-429;24-175;24-445;24-446;26-326;26-442;26-404;26-442;27-440;27-326;31-446;31-446;31-456;31-462;33-249;33-450;33-206;33-447;33-442;33-440;33-424;33-442;33-467;33-444;33-430;33-447;33-444;33-440;33-437;33-444;33-444;33-442;33-426;33-448;33-303;33-451;33-444;33-290;33-442;33-448;33-447;33-448;33-440;33-110;33-441;33-441;33-459;33-442;33-442;33-442;33-442;33-461;33-424;33-444;33-441;33-440;33-430;33-449;33-282;33-448;33-442;33-458;33-442;33-417;33-461;33-416;33-463;33-444;33-447;33-417;33-457;33-442;33-444;33-431;33-441;33-423;33-421;33-406;33-436;33-413;33-459;33-429;33-462;34-446;36-447;36-447;36-423;36-447;36-447;36-464;36-423;36-447;36-428;36-292
1974	1-374;1-391;2-137;2-261;2-137;2-137;2-137;2-137;2-137;2-137;2-380;2-137;2-391;2-268;2-137;2-137;2-137;2-125;3-376;37-502
1975	1-470;1-426
1976	1-394;1-398;1-398
1977	1-276;1-478
1978	1-439;1-439;1-358;1-491
1979	1-450;1-381;1-91;1-396
1980	1-278;7-370;80-345;97-340
1982	1-470;1-471
1983	1-441;1-512;1-230;1-396;1-489;1-437;1-456;1-490;1-489
1984	1-408;14-405;320-731;320-686;320-809;320-733;320-704;320-782;320-451;320-747;320-786;320-834;320-792;320-734;320-777;320-726;514-717
1985	1-507;1-455
1993	1-281;1-486;1-444
1994	1-482;1-451;1-372
1995	1-503;1-479;1-540;3-621
1997	1-474;1-468;1-477;2-452;2-237;34-439
1998	1-463;5-543;5-463
2000	1-497;1-487
2003	1-464;1-456;1-464;1-345;1-480;1-463;18-475;49-567
2004	1-454;11-466;11-474;11-474;11-355;11-490;11-473;28-485
2005	1-256;1-511;1-427;2-376;2-419;2-256;3-471;3-473;3-491;3-493;3-464;3-417;3-446;3-261;3-213;3-494;3-280;3-424;3-425;3-350;3-491;3-428;3-471;3-401;3-459;3-500;3-464;3-446;3-355;3-417;3-416;3-493;3-403;3-464;3-626;3-468;3-446;3-467;3-418;3-471
2006	1-422;1-423;1-464;1-357;2-468;2-412;2-447;2-250;2-455;2-455;2-464;2-468;2-453;2-463;4-502;4-452;4-487;14-447;14-420;14-424;36-336;36-109;36-345;37-445;52-427;273-800
2007	1-416;1-432
2008	1-260;1-495
2009	1-494;2-518;2-518;3-434;6-478;7-497;7-434;10-471;10-498;11-215;13-449;32-495;32-502;32-449;32-499;32-478;32-503;32-517;32-506;33-497;33-400;33-522;33-449;33-505;33-517;33-497;33-520;33-495;33-519;33-492;34-501;34-493;34-495;34-501;34-476;34-513;34-478;34-515;34-489;34-497;36-449;36-511;38-494;38-492;38-498;38-475;38-496;38-502;38-494;38-496;38-501;38-508;38-519;38-188;38-520;38-426;38-495;38-501;38-492;38-440;38-449;38-510;38-499;38-478;38-478;38-497;38-478;38-495;38-395;45-504;45-498;45-495;45-478;45-510;45-473;45-519;46-493;47-426;49-497;49-476;49-505;49-491;50-473;50-502;50-508;50-520;50-510;50-408;50-492;50-449;50-504;50-502;50-510;50-470;51-497;55-370;55-520;55-519;55-277;70-512;78-508;78-497;78-510;78-496;78-510;78-478;78-505;78-478;78-489;78-504;78-501;78-520;78-510;78-507;78-522;78-513;78-513;78-513;78-496;78-487;78-510;78-394;78-201;78-507;78-505;78-510;78-520;78-497;78-284;78-355;78-509
2010	1-419;1-421;1-370;1-419;1-404;1-421;1-418;1-420;1-419
2011	1-514;1-508;1-472;1-509;1-428;1-484;1-498;1-478;1-455
2017	1-497;1-506;1-517;1-489;12-401;12-346;12-517;12-453;12-227;12-381;12-223;12-260;18-585;21-507;23-510;23-532;33-524;33-603;33-454;34-469;34-456;34-229;34-527;34-520;34-521;34-525;34-517;34-475;34-349;34-455;34-537;34-546;34-409;34-438;34-557;34-351;34-506;34-457;34-493;34-523;34-418;34-482;34-635;34-473;34-355;34-532;34-531;37-358;37-502;37-518;37-508;37-545;40-377;40-497;43-516;44-528;45-507;46-596;52-363;64-252;64-544;67-546;166-617;226-635;226-583

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2018	1-502;8-468;11-481;11-455;11-456
2019	1-432;1-603;1-67
2020	1-389;1-473
2021	1-491;1-515;1-420;1-486;1-445;1-84;1-435;1-474;1-503;1-491;1-479;1-444;1-439;1-497;1-341;1-472;1-405;1-494;1-497
2024	1-594;2-365;2-489;2-477
2028	1-255;1-345
2029	1-462;1-470;1-422;1-380
2030	1-534;1-427
2034	1-482;1-463;1-500;1-506
2035	1-468;1-492
2036	1-473;1-573;1-587
2037	1-143;1-55;1-507
2038	1-466;1-365
2040	1-475;1-497;1-501
2042	1-430;29-494
2043	1-483;1-464
2044	1-220;9-131;9-179;9-160;9-232;9-73;9-162;9-160;9-242;9-135;9-481;9-58;9-148;9-191;9-84;9-160;9-190;9-160;9-81
2046	1-386;1-462;1-462
2048	1-516;1-526;1-223
2050	1-440;1-457;1-482
2051	1-539;1-464;1-521;11-487;11-397;11-507;11-538;11-510;11-429;11-476;11-462;22-453;25-450;25-387;25-530
2053	1-462;182-666;182-477;227-733;412-820
2055	1-279;1-662;1-481
2067	1-461;1-236
2068	1-466;312-617
2069	1-446;1-503;1-435
2075	1-460;1-558
2082	1-602;219-665;219-670;219-616;219-665;219-513;219-672;219-665;219-658;219-524;219-671;219-640;219-634;219-642;219-601;219-669;219-673;219-664;219-665;219-663;219-665;219-664;219-664;219-661;219-665;219-658;219-677;219-662;219-616;219-665;219-671;221-669;221-673;221-665;221-660;221-625;221-673;221-670;221-673;221-591;221-578;221-667;221-666;221-672;221-667;221-673;221-440;221-669;221-655;221-668;221-665;221-640;221-685;221-657;221-580;221-640;221-675;221-493;221-434;221-670;221-654;233-657
2090	1-448;1-390;1-363;1-356;1-415;1-480;1-415

Seq Id No.	Positions of biological 5'ESTs
2100	1-466;1-481;1-486;1-435;1-501;1-492;1-309;1-480;1-453;1-484;1-313;1-451;1-501;1-457;1-448;1-505;1-438;1-375;1-439;1-424;1-477;1-476;1-490;1-478;1-420;1-505;1-503;1-482;1-96;1-300;1-503;1-488;1-501;1-434;1-470;1-491;1-305;1-479;1-488;1-483;1-461;1-501;1-501;1-436;1-501;1-397;1-375;1-505;1-394;1-475;1-459
2121	1-406;24-407;95-241;95-240;95-240;95-241;95-179;95-236;95-402
2123	1-396;1-533
2132	1-388;1-371;1-376;3-335
2144	1-451;1-533
2156	1-600;1-478;1-471;1-510
2167	1-512;1-476;1-479;1-481;1-473;1-464
2170	1-192;1-489;1-532;1-297;1-505
2174	1-315;2-543;2-444;2-469;2-462;2-564;2-479
2187	1-428;9-451
2189	1-488;1-503
2194	1-455;1-266;1-320;1-394;18-404;18-487
2195	1-455;1-266;1-320;1-394;18-404;18-568
2198	1-439;1-439
2200	1-205;1-413;1-506;1-475;1-544;1-393;1-476;1-543
2209	1-397;3-475;405-892
2210	1-499;1-486
2218	1-426;1-510
2220	1-341;1-473
2239	1-482;1-482;1-370;1-401;1-508
2256	1-428;25-507;25-514;25-517;25-516;25-537;25-508;25-553;25-453;25-475;25-510;25-518;25-525;25-472
2258	1-428;25-508;25-453;25-475;25-472
2260	1-470;1-395;1-315;1-404;1-472;1-472;1-460;1-460
2261	1-345;1-460;1-428
2262	1-283;1-599;1-497
2282	1-466;1-495;1-471;1-456;1-451;1-501;1-537;1-414;1-468;1-430;1-426
2312	1-425;1-468
2334	1-428;1-360;1-443
2351	1-387;86-616
2355	1-479;1-339;1-413
2356	1-181;1-407;1-476;1-488;1-404;1-470;1-477;1-488
2360	1-376;26-190;26-540
2366	1-478;1-531;1-478;1-513

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2367	1-494;1-357;1-534;5-212;5-551;5-311;5-558;5-500;5-398;5-372;5-505;5-496;5-358;5-507;5-554;5-499;5-510;5-374;5-221;5-389;5-373;5-340;6-543;6-389;6-366;6-108;6-339;6-136;6-537;6-560;6-393;6-389;6-533;6-492;6-199;6-551;6-388;6-73;6-500;6-510;6-388;6-388;6-507;6-559;6-540;6-505;6-565;6-68;6-309;6-374;6-290;6-136;6-558;6-366;6-537;6-537;6-213;6-507;6-403;6-487;6-136;6-374;6-494;6-136;6-499;6-236;6-496;6-374;6-542;6-321;6-561;6-507;6-321;6-374;6-275;6-299;6-193;6-512;6-489;6-356;6-368;6-494;6-384;6-226;6-366;6-308;6-497;6-385;6-137;6-501;6-374;6-340;6-559;6-138;6-496;6-136;6-506;6-382;6-490;6-120;6-494;6-374;6-134;6-134;6-511;6-338;6-374;6-333;6-540;6-493;6-503;6-136;6-507;6-511;6-374;6-374;6-374;6-558;6-533;6-499;6-235;6-128;6-500;6-386;6-134;7-290;7-294;7-503;7-200;7-373;7-374;8-213;9-385;11-340;11-145;11-558;11-537;11-339;11-509;11-272;11-554;11-496;11-558;11-134;11-558;11-199;11-507;11-489;11-496;11-403;11-292;11-312;11-235;11-558;11-355;11-507;11-546;11-147;11-389;11-339;11-374;11-554;11-300;11-138;11-300;11-5
2368	1-350;1-148;1-437;1-472
2369	1-441;1-489;1-489
2370	1-348;1-427;1-454;1-294;2-220
2371	1-388;1-371;1-388;1-374;1-387;1-50
2372	1-474;12-474;22-481;22-510;22-455;22-462;46-502;46-552;121-556;138-531
2373	1-523;1-427;1-497;1-413;1-471;1-457;1-470;1-517;1-458;1-497
2376	1-430;1-520;1-472
2379	1-528;1-488;1-442;1-531;1-458;1-528;1-528;1-515;1-515;1-534;1-534;1-507;1-515;1-515;1-530;1-528;1-515;1-528;1-507;1-514;1-528;1-489;1-473;1-515;1-507;1-512;1-534;1-515;1-515;1-529;1-515;1-515;1-429;1-515;1-435;1-507;1-528;1-531;1-534;1-503;1-531;1-528;1-458;1-527;1-481;1-507;1-515;1-514;1-531;1-530;1-529;1-528;1-515;1-485;1-515;1-515;1-531;1-507;1-515;1-502;1-515;1-425;1-473;1-534;1-379;1-515;1-524;1-531;1-443;1-423;1-479;1-458;1-507;1-376;1-499;1-386;1-458;1-528;1-517;1-515;1-515;1-421;1-454;1-515;1-531;1-423;1-507;1-530;1-529;1-531;1-516;1-515;1-507;1-392;1-531;1-515;1-514;1-515;1-515;1-502;1-514;1-478;1-482;1-499;1-531;1-433;1-454;1-380;1-463;1-54;1-534;1-531;4-507
2384	1-459;1-432;1-456;1-249;1-455;1-170;1-239;1-429;1-247;1-246;1-84;1-247;1-244;1-232;1-239;1-246;1-415;1-243;1-389;1-319;1-226;1-430;1-372;1-84;1-456;1-397;1-85;1-379;1-456;1-389;1-84;1-154;1-200;1-198;1-456;1-93;1-265;1-153;1-239;1-212;1-93;1-242;1-355;1-420;1-389;1-385;1-395;1-383;1-456;1-52;1-170;1-75;1-247;1-322;1-343;1-443;1-250;1-456;1-103;1-105;1-105;1-104;1-429;1-264;1-389;1-56;1-295;1-154;1-245;1-245;1-267;1-225;1-219;1-264;1-104;1-395;1-120;1-456;1-246;1-264;1-459;1-73;1-250;1-247;38-434;211-649;211-626;222-467;302-660
2387	1-355;1-439;1-447;1-517;1-488;1-488
2390	1-445;1-523;1-471;1-477;1-489;1-354;1-445
2392	1-489;369-856
2396	1-349;1-487;57-497
2397	1-370;1-513;1-584;1-529;1-485;1-580;1-579;1-489;1-505;1-488;1-464;1-467;1-423;1-529;1-318;1-314
2400	1-396;1-459
2401	1-487;10-348;10-407;10-442;10-256;10-217;10-442;16-457
2407	1-496;1-339
2408	1-171;1-374
2410	1-360;1-451;1-468;1-460
2411	1-437;1-465;2-248;2-392;2-515;2-476;2-287;2-472;2-244;2-385;2-183;2-480;2-427;2-96;2-75;2-535;2-445;2-168;2-558;2-485;2-117;2-296;2-519;2-123;2-483;2-516;2-444;2-340;2-519;2-298;2-529;2-239;2-445;2-91;2-503;2-366;2-477;2-437;2-325;2-350;2-334;3-210;3-119;4-284;4-502;4-483;4-491;4-337;4-471;4-234;232-762;333-392;410-781;490-845;490-857
2414	1-458;2-447;19-548;26-416
2416	1-426;1-199;1-199;1-199;3-64;3-306;3-226;5-208;75-488;75-490
2417	1-411;14-408;322-739;322-693;322-814;322-741;322-711;322-790;322-454;322-755;322-794;322-800;322-742;322-785;322-734;518-723;534-930
2418	1-489;1-369
2419	1-220;101-505
2421	1-345;1-476
2423	1-501;1-491;6-463
2424	1-347;1-251
2425	1-480;1-488
2426	1-506;1-398;1-475;1-444

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2427	1-492;13-447;17-516;18-442;18-445;18-475;18-480;18-481;18-491;18-256;18-445;18-478;18-306;19-464;21-474;21-425;22-495;22-478;22-481;23-404;26-437;32-506
2431	1-433;1-520;1-469;1-380;1-542;1-476;1-433;1-511;1-309;1-465
2432	1-482;1-489;20-490
2433	1-158;1-376;1-377;1-537
2435	1-461;1-388;1-557;1-337;1-490
2436	1-380;21-493;32-471;32-336
2438	1-422;1-433
2439	1-496;1-581;1-489
2440	1-265;1-522;1-480;1-456;1-432
2442	1-401;1-444
2445	1-472;1-504
2446	1-367;1-430
2447	1-229;19-485
2452	1-196;1-461;1-230;1-309;1-467;1-425;1-437;1-449;1-417;1-460;1-465
2453	1-480;18-450;18-514;18-465;18-562;18-330;18-520;18-476;18-432;18-375;18-494;18-406;18-426;18-468;18-494;18-522;18-435;18-554;18-220;18-368;18-466;18-469;18-428;18-543;18-129;18-477;18-466;18-234;18-417;18-502;18-469;18-513;18-560;18-553;18-388;18-435;18-433;18-525;18-446;18-514;33-506;34-489;34-502;34-369;34-571;34-410;34-397;34-516;34-448;34-506;34-569;34-480;34-259;34-336;34-571;34-421;34-563;34-450;34-514;34-531;34-261;34-536;34-525;34-551;34-506;34-565;34-96;38-371;49-505;49-510;49-131;49-242;49-525;49-453;49-571;49-530;49-469;49-543;49-544;49-518
2454	1-434;1-551;83-285;83-194;83-299;99-323;99-323;99-161;114-196;114-307
2462	1-484;1-498;1-490
2464	1-250;1-499
2465	1-434;1-478;1-498;1-389
2466	1-453;18-378;18-489;18-483;18-386
2467	1-399;1-205;1-358;1-383;1-511;1-385
2468	1-314;1-465;1-408;1-493;1-441;1-292;1-492
2469	1-452;41-358
2470	1-263;1-381;1-293;1-422;1-553;1-556;2-462;2-382;2-200;2-473;2-429
2471	1-362;1-396;1-457
2475	1-527;1-501
2478	1-270;1-266;1-266;1-86;1-255;1-268;1-270;1-270;1-267;1-467
2479	1-323;1-360;1-357

Seq Id No.	Positions of biological 5'ESTs
2481	1-537;1-483
2482	1-343;1-479
2484	1-514;1-449;1-342
2485	1-430;1-458;1-459;1-469;1-102;6-259;7-532;7-464;7-331;7-348;8-443;8-488;8-282;8-422;8-472;8-582;8-419;8-55;8-330;8-437;8-55;13-433;50-547;50-525;50-507;50-547;50-561;50-533;50-524;50-531;50-530;50-319;53-549;53-552;53-545;53-524;53-417
2486	1-406;1-420
2487	1-549;3-410;3-526;3-507;3-541;3-276;3-506;3-518;3-378;3-435;3-489;3-542;3-509;3-518;3-276;3-317;3-462;3-548;4-308;4-436;4-542;4-518;4-180;4-498;4-526;4-492;4-461;4-462;4-462;4-462;4-462;4-518;4-512;4-510;4-167;4-509;4-498;4-489;4-324;4-332;4-462;4-430;4-494;4-462;4-526;4-518;4-480;4-498;4-543;4-493;4-489;4-410;4-526;4-518;4-518;4-509;4-526;4-526;4-495;4-526;4-461;4-481;6-498;6-393;6-548;6-509;6-122;6-518;6-526;6-542;6-549;6-551;6-317;6-410;6-435;6-506;6-435;6-325;6-492;6-498;6-462;6-462;6-332;6-507;6-549;6-509;6-518;6-546;6-526;6-548;6-410;6-462;6-460;6-462;6-462;6-526;6-492;6-495;6-317;6-533;6-518;6-462;6-506;6-518;6-402;6-548;6-545;6-509;6-518;6-461;6-484;6-496;6-541;6-509;6-498;6-462;6-489;6-440;6-493;6-283;6-435;6-286;6-427;6-489;6-518;6-481;6-526;6-410;6-462;6-497;6-507;6-492;6-461;6-518;6-518;6-518;6-544;6-498;6-143;6-526;6-332;6-462;6-506;6-480;6-443;6-435;6-526;6-461;6-462;6-492;6-380;6-376;6-518;6-526;6-462;6-518;6-551;6-462;6-498;6-526;6-494;6-460;6-462;6-308;6-518;6-462;6-518;6-462;6-542;6-489;6-54
2489	1-344;1-410;1-241
2490	1-406;1-493;1-358
2492	1-533;1-377
2493	1-50;1-50;1-453;397-895
2494	1-561;1-498;1-339;1-404;1-377;1-494;1-477;1-462;1-453;1-508;1-486;1-498
2496	1-486;1-458
2497	1-491;295-793
2499	1-503;322-780
2500	1-278;1-300;1-291;1-290;1-277;1-240;1-278;1-300
2502	1-391;1-405;1-392
2503	1-377;1-453;1-457;1-476;1-334;1-316

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2505	1-428;15-509;15-431;15-519;15-463;15-448;15-432;15-493;15-281;21-492;21-543;21-443
2506	1-479;1-507
2508	1-468;1-479;1-465;1-477;1-442;1-465;1-471;1-469;1-449;1-468;1-368;1-479;1-479;1-467;1-465;1-468;1-411;1-479;1-423;1-479;1-466;1-464;1-479;1-472;1-376;1-464;1-488;1-269;1-465;1-464;1-479;1-467;1-407;1-479;1-479;1-479;1-464;1-410;1-479;1-466;1-465;1-479;1-488;1-391;1-431;1-277;1-464;1-463;1-479;1-468
2510	1-489;32-423
2511	1-508;1-407;1-447;1-491;1-258;1-504
2516	1-317;1-553
2520	1-486;27-498;37-495;37-511;37-518;37-507;37-517;37-518;37-525;37-516;38-507
2522	1-436;1-452;1-394
2523	1-510;1-538;1-430;1-469;1-367;1-482;1-492;1-509;1-520;1-470;17-380;17-370;17-519
2524	1-510;1-492;1-600;1-430;1-469;1-367;1-482;1-509;1-520;1-470;17-555;17-380;17-370;17-519
2528	1-495;1-473;1-442;1-513;1-475;1-492
2529	1-358;1-494;1-77;1-128;1-490;1-228;1-493;1-429;1-481;1-483;1-326;1-257;1-504;1-507;1-501;1-525;1-508;1-257
2530	1-444;1-500;1-448;1-393;1-496;1-232
2535	1-463;1-381
2539	1-448;27-484
2540	1-575;1-402;1-388;2-467;2-508;2-327;13-398;41-552;70-546;70-497;74-566;74-560;131-224;131-224;131-224;131-224;131-224;131-224;520-985
2541	1-508;1-418
2542	1-484;1-484
2543	1-544;1-496;1-496
2544	1-224;1-408;1-450
2545	1-499;27-498;38-519;48-545;51-525;51-538;51-504;51-514;51-520;65-564;65-356;69-558;69-558;69-486;69-537;69-563;72-566;81-549;81-559;81-558;82-549;83-564;83-547;83-557;83-529;83-561;83-561;83-563;83-581;83-584;83-572;83-568;83-235;83-563;84-567;85-567;85-571;85-542;85-557;85-280;85-535;86-566;86-579;87-557;91-575;91-435;91-545;95-557;127-569
2546	1-428;1-429;1-438;1-428;1-433;1-433;1-412;1-428;1-418;1-386;1-399
2548	1-497;1-397
2550	1-337;1-478;1-467;1-370;1-395
2553	1-374;1-390
2560	1-361;28-503;28-407;28-438;28-450;28-420;28-503;28-505
2562	1-472;22-491;57-539;57-504;57-522;57-589;57-578;57-541;57-573;57-522
2564	1-243;3-513;3-424
2566	1-349;1-482;1-459;1-69;5-510
2568	1-256;1-483;1-466;40-460
2571	1-483;1-475
2572	1-452;1-162
2574	1-359;1-530;362-786;362-554;362-798;362-834
2575	1-530;1-455
2576	1-456;6-77
2577	1-98;1-94;8-493;8-497;8-479;31-253;48-534;48-517
2578	1-98;1-94;8-493;8-497;8-479;31-253;43-534;48-517
2579	1-496;1-497;3-501;3-501;3-556;3-453
2580	1-430;6-352;6-427;6-473;6-622;6-473;6-391;6-399;6-318;6-391;6-331;6-458;6-520;6-472;6-419;6-513
2582	1-436;1-450
2584	1-489;1-439;1-144;1-295;1-468;1-227;15-366;16-506;18-513;141-596;141-510;141-647;144-615;144-603;147-631
2587	1-490;1-496;1-502;1-463;2-388;2-458;2-491;2-549;2-508;2-447;2-511;2-455;2-497;2-473;2-486;2-242;2-64;2-417;2-432;2-427;2-287;3-451;3-462;12-425;12-455;39-546;39-549;39-527;39-494;39-515;39-560;39-355
2589	1-321;1-422;1-482;1-492
2591	1-368;1-462;1-499;3-533;3-216;3-279;3-465;37-541;37-454
2592	1-272;92-574;92-563;92-554;92-575;94-558;94-573
2593	1-490;1-439
2594	1-485;1-233;1-479;1-486;1-99;1-383;1-433;1-522;1-500;1-453;1-475
2596	1-489;1-330;1-473;1-506;1-493;1-459;1-467
2598	1-479;1-504
2599	1-506;1-386;1-290;16-480
2605	1-508;1-538;1-444

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2608	1-355;39-409;55-447;55-444;55-447;55-447;55-447;55-436;55-447;55-447;55-418;55-447;55-441;55-447;55-447;55-447;55-422;55-432;55-305;55-447;55-424;55-432;55-373;55-447;55-379;55-447;55-447;55-447;55-432;55-443;55-447;55-385;55-443;55-416;55-428;55-447;55-447;55-443;55-420;55-447;55-465;55-437;55-445;55-432;70-446;70-466;70-454;70-446;70-453;70-447;72-450;72-466;72-419;72-467;72-471;72-466;76-454;77-440;77-439;77-466;77-465;77-451;77-466;80-467;80-447;80-467;80-454;80-454;92-459;104-447;104-440;104-453;104-465;104-448;104-441;104-458;104-454;104-466;104-461;104-454;106-456;138-466;138-454;138-466;138-386;138-466;138-443;138-471;138-466;138-420;138-446;138-466
2612	1-420;180-664;189-629;189-664;189-659;189-656;189-607;189-720;189-654;192-631;192-422;193-492;193-679;193-631;193-455;193-625;193-607;193-642;193-631;193-648;193-551;193-683
2613	1-421;1-468;1-487;1-466;58-552;58-551;71-556
2614	1-450;266-747;275-747;275-739;275-690;275-742;275-712;275-803;275-737;278-714;278-505;279-714;279-575;279-762;279-538;279-708;279-690;279-725;279-714;279-731;279-634;279-766
2617	1-460;109-578;109-165
2618	1-510;1-511;1-461;2-378;3-267;8-472
2619	1-483;23-400;23-209;25-77;51-386;51-489;51-476;51-428;54-346;56-570;63-554;63-545;63-533;97-619
2620	1-488;1-472
2622	1-429;14-241
2623	1-351;1-428;1-434;1-326;1-432;1-436;1-433;1-424;1-437;1-432;1-421;1-431;1-435;1-317;1-436;1-437;1-433;1-433;1-421;1-262;1-433;1-339;1-432;1-427;1-394;1-414;1-435;1-391;1-244;1-384;1-437;1-331;1-425;1-424;1-437;1-430;1-427;1-431;1-319;1-416;1-128;1-432;1-425;1-425;1-421
2635	1-488;1-312;1-439
2638	1-158;1-243;1-388;1-367;1-388;1-384;1-371;1-375;1-371;1-386;1-371;1-360;1-388;1-363;1-371;4-153;14-113;14-113;16-234;16-174
2642	1-444;1-367
2644	1-487;1-471;1-493

Seq Id No.	Positions of biological 5'ESTs
2647	1-493;1-436;1-433;1-459;1-522;1-493;1-107;1-483;1-327
2651	1-347;1-354;1-346;1-355;1-357
2652	1-466;1-238;1-464;1-467;1-440;1-483;1-440;1-453;1-472;15-457;18-483;18-529;18-504;18-495;18-545;18-421;18-372;18-424;18-492;18-447;18-534;18-100;18-534;18-529;18-511;18-305;18-586;18-304;18-555;18-534;18-472;18-239;18-584;18-499;19-487;21-551;26-528;26-513;26-485;26-486;26-513;26-440;26-547;26-557;26-372;26-533;26-532;26-504
2654	1-472;1-435
2655	1-425;7-512
2656	1-400;1-406;1-389;1-395;1-407;1-407;250-372
2657	1-461;1-450
2658	1-97;20-414
2660	1-300;1-455;2-407;3-484;3-331;3-175;3-289;3-459;3-454;3-355;3-253;3-274;3-204;3-335;3-305;3-388;3-333;3-311;3-455;4-111;6-367;6-379;6-459;6-224;6-237
2663	1-489;2-489;2-481;2-361
2664	1-490;1-381;1-483
2665	1-430;1-470;1-461
2667	1-483;1-445;1-447;1-491
2668	1-425;36-462;60-553;60-503;60-535;60-429
2669	1-485;1-453

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2671	1-481;25-495;25-505;25-510;91-510;91-503;95-481;98-496;98-301;99-491;99-189;99-502;102-458;102-510;102-261;102-231;102-508;102-478;102-508;102-508;102-509;102-355;102-509;102-499;102-508;102-495;102-508;102-508;102-423;102-413;102-508;102-187;102-510;102-468;102-502;102-508;102-508;102-370;102-510;102-490;102-510;102-508;102-366;102-494;102-510;102-510;102-458;102-509;102-487;102-509;102-504;102-509;102-439;102-508;102-510;102-508;102-456;102-509;102-502;102-502;102-285;102-481;102-489;102-260;102-508;102-508;102-510;102-504;102-508;102-507;102-508;102-508;102-188;102-499;102-510;102-509;102-510;102-510;102-510;102-497;102-508;102-507;102-502;102-493;107-502;107-510;107-602;107-509;107-357;107-496;107-567;107-571;107-493;107-509;107-491;107-510;107-607;107-540;108-509;108-424;108-254;119-479;119-509;119-493;119-443;119-510;119-483;119-483
2672	1-346;1-320;1-293;1-335;1-288;1-222;1-333;1-348;1-227;1-327;1-330;1-348;1-282;1-204;1-479;2-92;5-134;5-90;5-91;5-163;5-188;5-164;10-425;11-157
2673	1-452;1-422;4-207;5-95;8-137;8-167;8-364;8-261;8-329;8-276;8-345;8-272;8-319;8-362;8-93;8-278;8-94;8-364;8-166;8-191;13-263;14-160;14-330;25-349
2675	1-530;1-481;1-384;1-498;1-391;1-448;1-446;1-613;1-497;1-613;1-400;1-482;1-392;1-439;1-627;1-481;1-440;1-446;1-489;1-496;1-499;1-748;1-374;1-550;1-125;1-495;1-499;1-530;1-486;1-446;1-553;1-329;1-613;1-446;1-477;1-400;1-499;1-631;1-496;1-446;1-406;1-446;1-481;1-487;1-549;1-624;1-498;1-477;1-624;1-344;1-542;1-543;1-613;1-556;1-542;1-551;1-543;1-315;1-499;1-431;1-425;1-427;1-205;1-497;1-499;1-446;1-613;1-324;1-543;1-496;1-543;1-499;1-553;1-551;1-613;1-494;1-609;1-486;1-599;1-497;1-481;1-484;1-488;1-439;1-552;1-617;1-431;1-613;1-287;1-211;1-495;1-374;1-539;1-415;1-497;1-484;1-506;1-599;1-312;1-415;1-487;1-477;1-495;1-481;1-599;1-491;1-486;1-387;1-371;1-359;1-428;1-534;3-398;8-641
2677	1-417;1-497;1-393;1-456
2679	1-410;1-481;1-448

Seq Id No.	Positions of biological 5'ESTs
2680	1-461;1-520;1-465;1-469;1-455;1-455;1-425;1-500;1-475;1-461;1-461;1-460;1-451;1-487;1-495;1-396
2681	1-461;1-460;1-461;1-461;1-451;1-484;1-466;1-465;1-455;1-455;1-425;1-396
2682	1-53;1-152;1-481
2683	1-403;1-381;1-403;19-596;19-584;19-417;19-584;19-472;19-471;19-540
2690	1-422;1-491;1-436
2691	1-507;1-373;11-466
2693	1-510;1-522
2694	1-429;15-266;16-572;33-150
2697	1-364;1-392
2698	1-229;1-461
2699	1-499;1-479;1-499
2702	1-403;1-481
2703	1-411;1-474;1-511;2-497
2704	1-464;1-384
2707	1-404;1-481;1-451;1-426;1-483
2709	1-474;1-424
2710	1-473;1-446
2711	1-419;1-457;1-483;1-419;1-501;1-489;1-196;1-440;1-513;1-185;1-512;1-511
2713	1-385;1-417;1-482;1-440;1-469;1-171;1-484;1-197;1-469;1-471;1-501;1-352;158-250
2717	1-490;1-337;1-514
2718	1-463;1-521
2720	1-327;1-481
2721	1-497;1-490;1-449
2722	1-459;1-340;1-426;1-61
2723	1-433;49-495;61-260;71-457
2727	1-458;1-583

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2728	1-302;1-253;45-545;45-508;45-438;45-229;45-462;45-460;45-450;45-485;45-453;45-141;45-485;45-509;45-509;45-430;45-321;45-385;45-257;45-438;45-487;45-487;45-501;45-450;45-485;45-503;45-471;45-569;45-518;45-510;45-510;45-310;45-506;45-439;45-504;45-408;45-465;45-471;45-288;45-493;45-485;45-278;45-239;45-496;45-459;45-485;45-510;45-501;45-340;45-453;45-430;45-215;45-508;45-459;45-440;45-309;45-482;45-510;45-458;45-485;45-509;45-510;45-475;45-256;45-496;45-342;45-498;45-510;45-503;45-499;45-508;45-472;45-394;45-509;45-505;45-478;45-450;45-509;45-456;45-441;45-510;45-509;45-472;45-485;45-509;45-500;45-415;45-369;45-461;45-322;45-482;45-430;45-458;45-493;45-243;45-325;45-485;45-438;45-216;45-461;45-441;45-485;45-456;45-510;45-375;45-496;45-509;45-220;45-493;45-417;45-510;45-489;45-485;45-483;45-510;45-332;45-464;45-503;45-263;45-477;45-509;45-327;45-485;45-278;45-428;45-317;45-467;45-531;45-485;45-507;45-488;45-568;45-415;45-442;45-495;45-510;45-509;46-489;46-474;46-459;47-469
2729	1-484;1-480;1-481;1-549;1-297
2731	1-166;1-279
2732	1-425;82-477;82-415
2734	1-414;212-554;212-543
2735	1-481;1-461
2739	1-492;1-449;1-467
2740	1-372;1-471;1-462;1-454;33-470;33-462;37-475;37-413;37-407;38-549;38-504;38-374;38-473;38-522;38-484;40-459;42-469
2743	1-503;1-465;1-502;1-497;1-501;1-488;1-332;1-500;1-443;1-478;1-511;1-546;1-461;1-501;1-458;1-484;1-488;1-498;1-433;1-505;1-500;1-318;1-505;1-499;1-222
2744	1-346;1-484;1-368
2745	1-516;1-389;2-534;4-500
2748	1-472;1-390
2750	1-489;31-595;31-607;38-529;41-509;41-313;41-350;45-192
2754	1-256;1-445;1-447;1-447;1-145;1-441;1-443
2756	1-481;1-482
2759	1-235;1-466;1-509;1-464;24-459;43-563
2760	1-417;1-497;1-516;65-670
2761	1-379;1-414;1-493;1-335;1-493;1-457;1-471;1-64;1-480;1-152;1-480;1-398;1-389;1-439;1-284;1-471;1-480;1-420;1-321;1-494;1-471;1-471;1-457;1-492;1-480;1-328;29-501
2762	1-472;4-86
2763	1-485;4-86;17-539
2765	1-509;1-357;124-209
2766	1-356;23-399;23-408;23-407;23-404;23-406;23-407;23-415;23-415;23-410;24-407;24-271;24-375;24-204;24-403;24-399;25-403;25-390;27-389;36-436;36-429;41-389;43-416;43-402;43-402;43-414;43-407;43-416;43-402;43-402;43-394;43-143;43-416;43-355;64-403;64-387;73-416
2767	1-424;1-421;1-408;1-197
2768	1-356;23-399;23-408;23-404;23-415;23-410;23-415;23-407;23-406;23-407;24-271;24-399;24-407;24-403;24-204;24-375;24-423;25-390;25-403;27-389;41-389;43-421;43-402;43-419;43-143;43-402;43-420;43-414;43-402;43-407;43-394;43-402;43-355;64-403;64-387;73-421
2769	1-356;5-518;22-482;23-408;23-399;23-407;23-404;23-407;23-415;23-410;23-406;23-415;24-407;24-271;24-375;24-204;24-403;24-399;25-390;25-403;25-536;27-524;27-470;27-523;27-425;27-389;28-507;41-389;41-496;41-496;41-450;41-496;41-456;41-496;43-414;43-402;43-416;43-416;43-407;43-402;43-355;43-402;43-402;43-416;43-143;43-394;46-488;46-541;46-449;46-532;46-526;46-526;46-524;46-556;64-403;64-545;64-536;64-387;73-416
2772	1-85;12-84;12-98;12-99;12-139;12-180;12-85;12-159;18-149;18-149;18-98;44-157;44-157;45-157;45-157;45-157;45-506;45-154;45-134;45-157;45-154;45-135
2773	1-426;19-119;19-516;19-454;19-138;19-294;20-435;20-426;20-494;54-495
2777	1-222;1-506;1-422
2779	1-468;1-471
2780	1-496;1-502;1-412;1-295;1-472;1-100;1-109
2782	1-136;1-246;1-200;6-234;15-459;15-519
2783	1-435;3-488
2785	1-414;1-498;1-420;1-397;1-384;1-396;1-485;1-397;1-403;1-342;13-527;47-451;47-423;47-523;47-424
2786	1-430;1-320
2787	1-443;1-459;1-184;1-451;1-527;1-459;1-376

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2790	1-314;2-477;2-434;2-459;2-477;2-487;2-433;2-268;2-402
2791	1-53;6-483;11-442;11-172;11-256;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93;18-93
2792	1-163;1-903
2794	1-501;1-481;1-376;1-477;1-429;1-434;1-492
2807	1-98;1-82;1-98;1-474;1-451;1-425;1-96;1-98
2813	1-484;370-795;370-795;471-811;471-832;471-818;471-832;471-816;471-604;471-822;471-818
2815	1-194;1-148;2-200;2-129;2-145;2-150;2-138;3-149;3-150;27-123;27-149;27-123;28-129;28-144;28-129;28-131;28-129;28-140;28-149;29-129;30-149;31-143;31-200;32-148;33-148;33-134;33-148;33-149;33-151;33-150;33-141;33-149;33-150;33-134;33-193;33-137;33-147;33-151;33-179;33-150;33-152;33-183;33-200;33-144;33-200;33-150;33-91;33-150;33-407;33-122;33-87;33-144;33-149;33-149;33-138;33-151;33-135;33-105;33-150;33-150;33-150;33-135;33-131;34-93;34-145;34-151;34-138;34-151;34-129;34-135;34-148;34-149;34-140;34-149;34-179;34-131;34-148;34-142;34-139;35-140;35-148;35-150;35-200;35-135;35-140;35-108;36-136;36-150;36-141
2816	1-468;1-383;1-336;1-462;1-440;1-501;1-473;1-398;1-443;1-298;1-355;1-312;1-171;1-395;1-443;1-483;1-430;1-148;1-171;1-566;1-485
2820	1-427;91-621;566-1035
2822	1-494;11-509
2823	1-273;1-515;1-396
2825	1-524;3-502
2827	1-386;1-460;1-476
2828	1-337;4-491;4-263;4-415;4-516;4-485;4-483;4-503;4-493;4-483;4-425;4-478;4-336;4-464;4-327;4-494;4-466;4-427;4-467;4-484;4-494;4-53;4-412;4-487;4-464;4-507;4-406;4-464;4-474;4-415;4-493;4-439;4-447;4-184;4-410;4-490
2832	1-68;13-483;13-480;13-450;13-427;13-410;13-450;13-466;28-625
2834	1-418;1-418;1-391;1-319;1-416;1-417;1-369;1-403;1-405;1-393;1-410;8-483;8-444;8-508;25-406
2836	1-542;14-430;14-145
2838	1-462;1-462;1-517
2839	1-330;73-333;73-469;73-469;73-301
2844	1-201;23-500;23-358;23-129
2845	1-299;1-388;1-459;1-502;1-406;1-443;1-422;10-475;10-250;16-216;16-513;16-520;16-521;16-425;16-496;16-495;32-501;32-526;32-511;32-428;33-242;33-508;33-349;33-515;33-456;33-494;33-511;33-248;33-456;33-357;33-434;33-498;33-309;33-507;33-534;34-401;34-539;34-519;34-459;35-471;35-458;35-423;36-500;37-456;37-524;37-384;37-227;37-311;37-481;37-456;37-397;37-443;37-511;37-539;37-144;37-551;37-500;37-512;37-475;37-512;37-521;37-481;37-540;37-519;37-415;42-409;42-543;60-310;60-521;60-567;60-416;60-512;60-416;60-556;61-505;61-475;61-521;61-526;61-531;61-557;69-477
2849	1-428;1-521
2852	1-268;1-240;1-449;1-413;1-512;1-75;1-322;1-387;1-502;1-430;1-165
2853	1-404;1-436;1-292;1-436;1-420;1-436;1-436;1-307;5-449;6-483
2854	1-473;3-410;42-263;42-522;42-444;42-450
2855	1-112;1-217;1-203;1-313;16-527;17-319;17-242;17-244;17-79;32-225;32-114
2856	1-458;15-434;26-528
2860	1-324;1-504;1-408;1-500;1-416;1-509
2863	1-60;2-435;2-491;3-424;3-477;3-471;3-73;3-599;3-474;3-388;3-253;3-490;3-396;3-577;42-289;43-501;43-594;43-512;46-465;46-465;46-465;46-500;46-595;46-456;46-304;46-548;46-450;46-465;46-465;46-465;46-465;46-501;46-461;46-450;46-461;46-465;46-465;46-465;46-424;46-592;46-465;46-461;46-543
2864	1-495;3-394
2865	1-420;1-497
2866	1-494;1-366
2867	1-179;1-539;1-458;1-395
2868	1-513;334-713;334-414
2869	1-374;1-476;1-457;1-457
2870	1-280;1-485;1-418;1-394;1-396;1-382;1-396;4-493;4-357;4-405;4-490;4-399;4-445;4-221;4-462;4-406;9-492;25-519;25-487;25-492;27-531;27-520;27-510;27-372;27-486;27-479;27-400;27-249;27-444
2873	1-524;5-362;5-362
2874	1-462;1-460;1-486;1-408;1-464;1-451;1-227;1-477;1-426;1-466;1-486;1-486;1-397;1-447;1-306;1-474;1-471;1-447;1-486;1-476;1-311;1-465;1-486;1-445;1-459;1-461;1-486;1-421;1-446;1-257;1-473;1-420;1-251;1-449;1-486;1-323;3-486;3-373

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2876	1-485;1-484;1-486
2877	1-706;1-363;1-481
2878	1-489;8-531
2879	1-240;1-497;1-502;1-476
2880	1-482;1-295
2881	1-346;1-380;1-433;1-293;1-337;1-514;1-433;1-394;1-575;1-400;1-513;1-505;1-506;1-494;1-424;1-363;1-333;1-270;1-477;1-482;1-326;1-204;1-438;1-399;1-330
2884	1-511;1-493;1-408;1-560;1-441;1-259
2887	1-451;1-503;1-353;1-473
2888	1-447;3-551;3-504;3-460;3-399;23-548;28-507;28-423
2891	1-480;2-317;2-399;2-489;2-62
2892	1-303;13-446;13-499;13-486;13-414;13-490;13-480
2893	1-452;1-452;1-336;1-380;1-452;1-459;1-442;1-194
2894	1-492;1-470;1-489;1-547;1-471;1-501;1-441;1-280;1-311;1-317;1-471;1-497;1-499;1-292
2896	1-230;3-461;363-644
2899	1-505;1-503;1-511;1-279;1-203
2900	1-486;1-90
2902	1-317;1-440;1-470;1-433;1-432;249-721;249-603
2904	1-474;1-486;1-506;1-495;1-476;1-438;1-484
2905	1-474;1-467;1-473
2907	1-308;103-523;103-276
2908	1-503;1-453;1-468;1-502;1-539;1-371;1-455;1-482;1-500;1-503;1-505;1-503;1-389;1-506;1-472
2911	1-490;1-490;4-424;4-508;4-89;4-484;4-473;4-531;4-401;4-506;4-463;5-312;15-444
2912	1-438;64-475
2913	1-459;1-483
2914	1-307;103-482;103-571;103-275;103-434
2916	1-426;1-426;1-425;1-431;1-429;1-271;1-432;1-133;1-372;1-384;1-436;1-420;1-357;1-410;1-452
2919	1-486;49-537;50-575;50-502
2920	1-454;1-317
2921	1-462;1-480;2-457;2-481;2-432;2-492;19-490;19-342;19-492;19-480;22-465
2922	1-479;1-518;1-484
2924	1-467;217-610;217-582;217-607;217-615
2925	1-363;2-413;4-240;4-414;4-317;4-265;4-423;4-423;4-443;4-411;4-393;4-369;4-167;4-507;4-447;4-438;4-348;4-417;4-380;4-449;4-301;4-514;4-499;4-423;5-418;7-328
2926	1-483;1-463;1-408
2927	1-464;1-577
2928	1-489;1-474
2931	1-122;1-117;2-161;2-405;2-347;2-169;2-479;4-119;4-92;4-122;226-500;226-496;226-496;226-496;226-496;226-446;226-496;226-496;226-500;226-496;226-358;226-500;226-496;226-496;226-501;226-496;226-496;226-496;226-496;226-496;226-496;226-496;226-501;226-496;226-496;226-496;226-496;226-370;226-501;226-496;226-496;226-496;226-501;226-496;226-496;226-496;226-501;226-496;226-496;226-496;226-496;226-496;393-669;393-664;397-709;397-706;397-693;397-708;397-690;397-709;397-706;397-693;397-686;397-690;397-694;397-709;397-706;397-693;397-693;397-681
2932	1-528;1-308;1-581
2933	1-372;2-369;3-474;16-324;16-339;16-324;16-324;16-477;16-135;16-328;16-300;16-422;16-328;16-324;16-339;16-433;16-339;16-530;16-215;16-324;16-324;16-339;16-474;16-230;16-339;16-335;16-339;16-339;16-327;16-328;16-448;16-342;16-324;16-121;16-328;16-230;16-133;16-324;16-339;16-339;16-327;16-328;16-321;16-467
2934	1-486;1-269
2936	1-464;1-300;1-456
2937	1-396;1-117;1-381;1-406;1-515;1-467

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2938	16-491;16-611;16-396;16-491;16-497;16-474;27-410;27-443;27-494;27-465;27-492;28-507;28-281;28-249;29-574;29-566;30-484;30-547;30-558;30-505;30-426;30-330;30-493;30-536;30-491;30-585;30-493;30-145;30-427;30-429;30-386;30-491;30-505;30-467;30-462;30-410;30-459;30-423;30-466;30-197;30-504;30-499;30-444;30-462;30-625;30-448;30-556;30-507;30-462;30-462;30-462;30-538;30-410;30-447;30-504;30-537;30-463;30-322;30-642;30-636;30-480;30-503;30-253;30-503;30-405;30-504;30-430;30-512;30-603;30-483;30-379;30-398;30-515;30-410;30-542;30-443;30-497;30-459;30-507;30-523;30-442;30-416;30-449;30-510;30-415;30-469;30-459;30-506;30-427;30-513;30-486;30-463;30-449;30-418;30-504;30-502;30-578;30-503;30-398;30-507;30-458;30-451;30-324;30-504;30-399;30-458;30-491;30-453;30-504;30-398;30-501;30-462;30-495;30-483;30-432;30-483;30-530;30-462;30-625;30-512;30-470;30-518;30-504;30-510;30-426;30-504;30-498;30-491;30-477;30-491;30-494;30-500;30-334;30-396;30-397;30-507;30-574;30-492;30-459;30-457;30-492;30-502;30-504;30-522;30-444;30-374;30
2940	1-117;1-122;2-169;2-161;2-405;2-479;2-347;4-119;4-122;4-92;226-496;226-496;226-446;226-496;226-496;226-500;226-496;226-496;226-501;226-500;226-496;226-496;226-496;226-496;226-501;226-496;226-496;226-496;226-358;226-496;226-496;226-501;226-496;226-496;226-496;226-501;226-496;226-496;226-496;226-500;226-496;226-496;226-496;226-496;226-496;226-501;226-496;226-496;226-370;226-496;226-496;226-496;393-664;393-669;393-687;393-687
2941	1-493;1-438;1-252
2943	1-506;1-509;1-491
2944	1-422;1-369;1-465;1-402;1-414
2945	1-489;12-347;17-398;17-372;17-67;17-493;17-229;17-362;17-424;17-430;17-481;17-164;17-378;17-489;17-161;17-481;42-350;62-489;62-489;64-278;69-516;69-518;69-486;69-492;69-510;69-487;69-325;69-521;69-161;71-145;71-494;71-531;71-543;71-489;71-502;80-537
2947	1-490;1-538
2949	1-488;1-434;1-404;1-440;3-355;3-330;3-411;3-403;3-492;3-505
2951	1-502;1-506;1-483
2952	1-415;80-470;80-525;80-410
2959	1-590;1-294
2962	1-499;1-453
2963	1-455;31-539
2964	1-499;1-364;1-334;1-483;1-403;1-469
2966	1-452;1-421
2968	1-388;46-118;49-284;51-462;56-397;56-402;56-411;71-462;71-390;71-217;74-462;77-415;85-462;85-399;85-235;85-401;85-425;85-291;85-303;85-392;85-409;85-416;86-405;86-399;90-460;95-236;95-575
2969	1-520;1-387
2970	28-507;28-527;28-480;28-541;28-550;28-408;28-581;28-463;28-562;28-533;28-440;28-489;28-543;43-531;48-555;50-158;50-550;50-342;50-547;50-572;50-158;50-480;88-578;135-631
2971	1-488;1-491
2974	1-409;1-517;1-260;1-482;1-443
2976	1-470;1-377
2978	1-473;1-508;1-234;1-517;1-515;1-427
2979	1-303;1-490
2980	1-122;1-467;9-484;9-456
2981	1-466;1-405;3-539;5-403;8-496;11-510;12-501;12-517;12-494;12-503;12-472;12-447;12-494;12-499;12-516;12-495;12-481;12-524;12-517;12-530;12-317;12-527;12-494;12-466;12-496;13-447;13-504;13-531;13-530;14-501;14-467;15-407;15-495;15-548;15-478;15-522;15-480;15-493;15-497;15-480;15-462;15-462;15-460;15-488;15-462;15-442;15-369;15-300;15-426;15-461;15-577;15-574;15-519;15-504;15-558;15-488;15-472;15-477;15-508;15-390;15-472;15-463;15-539;15-472;15-481;15-567;15-404;15-321;15-379;15-490;15-496;18-518
2984	1-501;1-490;1-493;1-451;1-461
2985	1-423;1-491;1-338;1-404;1-462;2-450;358-783
2986	1-502;1-459;1-484
2989	1-374;1-478
2990	1-419;1-482
2991	1-451;1-422;18-549;18-449;19-442
2995	1-465;1-446;1-438;10-483;10-482;10-509;10-437;10-494;10-466;10-437;10-472;10-472;10-475;10-473
2996	1-354;5-466
2997	1-359;1-460;1-461;1-467;1-444;1-486;1-469;1-486;1-467;1-483;1-482;1-370;1-334;1-443;1-442

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
2998	1-449;1-546
3001	1-578;28-467;28-447;28-512;28-474;28-439;28-450;28-525;28-473;28-519;28-458;104-559;104-507;104-584;104-579;104-452;104-579;104-513;104-548
3002	1-483;2-482
3003	1-518;2-480;4-123;4-297;4-317
3005	1-437;1-468;1-414;1-485;1-421;1-436;1-493;7-504;7-452;7-420;35-334;35-486;35-454;35-458;35-348;35-538;35-475;35-549;35-535;35-538;35-457;35-533;35-486;35-509;35-486;35-469;35-439;35-529;35-422;35-418;35-457;35-277;35-466;35-523;35-491;35-502;35-557;35-434;35-403;35-335;35-519;35-454;35-454
3006	1-327;1-306;1-263;1-148;1-169;23-388;29-161
3007	1-357;1-493;1-359;1-450;1-453;1-522;1-411;1-470;1-509;1-451;1-386;14-525;14-523;22-500;22-127;39-548;41-538;53-501;53-485
3008	1-358;1-360;22-127;24-513
3010	1-507;1-451;1-173;1-455;1-422
3011	1-462;213-604;217-704
3012	1-205;13-505
3013	1-97;1-479;1-556;1-441;1-486;2-556;2-351;11-337;15-481;15-479;15-476;15-485;15-165;15-351
3014	1-320;12-467
3016	1-497;8-513;12-324
3017	1-469;1-448
3018	1-372;1-531;1-406
3019	1-459;1-610
3021	1-530;1-431
3022	1-54;1-436
3023	1-494;1-483;1-470;1-473
3024	1-472;1-474;1-488;1-275
3025	1-425;40-524;40-505;40-523;40-311;40-383;40-582;40-520;40-534;40-513;40-460;40-548
3027	1-807;1-604
3029	1-503;1-483;1-487;1-503;1-510;1-497;1-510;1-454;1-472;1-482;1-494;1-488;1-450;1-533;1-428
3030	1-472;1-505;1-440;1-370;1-485;1-382;1-464;1-316;1-468;1-493;1-470;1-467;1-493
3031	1-520;1-489
3032	1-585;1-495

Seq Id No.	Positions of biological 5'ESTs
3034	1-337;1-493;1-463;1-321;1-230;1-148;1-402;1-490;1-431;1-554;1-431;1-478;1-448;1-487;1-464;1-459;1-387;1-486;1-387;1-377;1-444;1-167;2-188;2-471;37-573;37-328;37-566;37-573;37-371
3036	1-87;1-135;17-375
3037	1-462;1-96
3038	1-584;1-410;1-226
3039	1-436;1-456;1-472;6-483
3041	1-374;1-373;1-382;4-241;20-265;20-524;20-152;20-382;20-523;20-378;20-135
3044	1-474;1-491;1-290
3046	1-450;1-477;1-313;1-387
3047	1-539;272-690;272-691;272-669;272-671;272-691;272-690;272-690;272-690;272-690;272-667;272-673;272-658;272-651;272-673;272-689;272-617;272-667;272-666;272-679;272-683;272-690
3049	1-536;1-326;1-397;30-470;30-544;30-465;30-467;38-518;38-485;38-527;38-535;56-540;56-563;56-547;56-436;58-439;62-466;152-547;152-321
3053	1-438;1-475;311-787
3056	1-335;3-185;4-503
3057	1-121;1-425;1-468;1-335
3058	1-479;1-558;1-495
3059	1-481;1-469
3060	1-453;1-108;2-494;2-410;2-415;2-110;3-119;3-122
3061	1-493;1-493;15-406;15-479;15-484;15-236;15-523;15-505;25-188
3064	1-519;1-488
3066	1-456;22-375;22-432
3067	1-266;1-417;4-517;4-79;29-468;29-393;29-443;29-561;29-471;50-551
3068	1-395;1-438;1-463;1-433;1-436;1-415;1-435;1-463
3069	1-460;1-394;1-338;1-464;1-468;1-416;1-411;1-513;1-415;1-404
3070	1-420;28-484
3071	1-196;1-473
3072	1-389;5-434;5-360;5-222;5-449;9-423;37-452;37-120;37-233;37-438
3076	1-400;1-500;1-494
3084	1-326;1-498;1-314;1-472;1-485;1-439;1-528;1-441;1-471;1-483;1-498;1-357;1-502;1-462;1-500;1-299;1-502;1-500;1-329;1-429;1-210;1-497;1-470
3085	1-199;1-279
3086	1-458;1-513

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3087	1-259;1-391;1-390;1-392;1-387;1-328;1-387;1-208;1-391;1-379;1-390;1-390;1-388;1-388;1-371
3093	1-490;1-478;1-330;1-421
3094	1-478;1-505;1-435
3096	1-469;1-168;1-239;1-498;1-423;1-294;1-425;1-365;1-399;1-505;1-497;1-498;1-482;1-476;1-499;1-508;1-503;1-345;1-505;1-254
3099	1-364;1-482;1-209;27-79;27-286;27-101;27-101;28-493;28-501;28-515;28-502;28-224;28-484;28-533;28-283;28-471;28-484;28-362;28-279;28-504;28-493;28-331;29-407;29-470;35-323;50-284;50-423
3103	1-490;1-489
3104	1-87;1-458;1-501
3107	1-542;1-498;1-294;1-540;1-484;1-454;1-509
3109	1-451;1-460;1-478;1-477;1-500;1-442;1-430;1-537;1-438
3111	1-246;2-454;2-64;2-442;2-454;21-491
3112	1-255;1-255;2-480
3114	1-525;1-187;1-487;1-357
3115	1-475;1-189
3116	1-492;1-509;1-495;1-197
3117	1-482;1-428;1-477;1-369;1-367;1-498
3118	1-357;1-509
3121	1-428;1-418;1-313;8-267;9-451;9-451;10-459;37-513;43-452;43-582;43-568;43-515;43-423;43-565;43-481;43-546;43-582;43-557;43-554;43-551;43-521;43-311;51-532;51-528;51-527;51-466;51-466;51-479;51-522;51-519;51-541;51-350;51-459;51-363;51-556;51-519;51-502;51-552;51-535;51-515;51-487;51-487;51-423;51-552;51-563;51-525;51-519;51-536;51-519;51-515;51-557;51-384;51-540;51-549;51-632;51-486;51-231;51-260;51-354;51-356;53-578;54-538;60-515;60-445;60-480
3122	1-428;1-418;1-313;8-267;9-451;9-451;10-459;37-513;43-452;43-568;43-582;43-557;43-612;43-565;43-551;43-554;43-546;43-423;43-515;43-521;43-481;43-582;51-527;51-466;51-519;51-522;51-479;51-528;51-350;51-563;51-502;51-466;51-459;51-363;51-532;51-384;51-519;51-556;51-515;51-535;51-515;51-487;51-616;51-487;51-423;51-541;51-552;51-519;51-525;51-519;51-536;51-552;51-557;51-540;51-549;51-486;51-231;51-260;51-356;51-354;53-578;54-538;60-515;60-445;60-480
3124	1-454;1-479
3125	1-454;1-492
3126	1-483;254-707
3127	1-488;1-382;1-411;1-503;1-56;1-488
3128	1-479;1-462;1-123;1-205;1-130;1-443
3130	1-497;1-106;1-467;1-477
3133	1-473;1-410;1-469;1-487;1-491;1-506;1-494;1-504;1-436;1-516;1-341;1-513;1-255;1-414;1-452;4-494;5-482;5-510;5-448;5-472;5-426;5-426;6-504;6-458;6-517;6-450;13-506;13-474;38-493;38-544;38-528;38-531;39-525;39-511;39-532;39-516;39-472;39-535;39-461;39-532;39-479;39-527;39-511;39-522;39-222;39-480;39-179;39-532;39-504;39-454;39-492;39-532;39-515;39-521;39-510;39-451;39-529;39-162;39-525;39-525;39-339;39-487;39-501;39-483;39-529;39-518;39-516;39-534;39-525;39-522;39-516;39-526;39-226;39-517;39-546;39-510;39-205;39-441;39-509;39-507;41-485;44-451;78-544;80-461;80-509;80-541
3138	1-489;1-464
3139	1-435;97-596
3142	1-438;1-428
3143	1-513;1-492
3144	2-491;2-491;2-465;2-459;2-292;2-302;2-491;2-412;2-55;2-509;2-448;2-474;2-473;2-484;2-505;2-404;2-498;2-505;2-490;2-416;2-488;2-508;2-164;2-484;2-364;2-506;2-548;2-510;2-481;2-519;2-485;2-485;2-487;2-421;2-484;2-464;2-445;2-357;2-249;2-422;2-490;2-501;2-448;2-447;2-490;2-482;2-482;2-328;2-487;3-455;4-503;10-462;10-320;10-493;10-509;10-504;10-481;10-447;12-473;14-509;17-506;18-482;22-231;35-342;35-514;35-487;35-511;35-484;35-411;35-459;35-493;37-510;38-380;40-106;40-523;41-463;41-509;41-504;41-484;41-482;41-511;41-493;41-538;41-447;41-113;41-520;41-517;42-420;44-518;44-509;44-515;44-161;44-526;44-509;44-483;44-504;49-525;59-497;59-537;73-517
3145	1-465;47-480;47-597;47-473;47-575;56-601;56-493;56-487;56-570;56-574;56-501;56-725;56-286;56-500;59-491;89-587;89-473;89-473;89-191;89-575;89-587;89-479;89-460;89-473;89-473;89-501;89-479;89-479;89-490;89-464;89-463;89-493;89-493;89-196;89-597;89-224;89-460;89-459;89-602;89-500;89-481;89-473;89-492;89-232;89-489;89-441;89-493;90-528;90-606;90-490;91-473;98-501;101-501

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3146	1-86;1-414;1-476;1-465;30-401
3147	1-467;1-476;1-488;1-408;1-479;43-500
3148	1-455;1-452;1-462
3149	1-382;1-376;1-627;1-165;1-436;10-334;10-410;10-60;10-289;13-410;13-463;13-293;13-469;13-390;13-420;13-449;13-375;13-449;13-399;13-498;13-354;13-139
3150	1-484;14-559;402-864
3151	1-461;51-568;61-518;61-479;61-493;61-446;61-431;61-655
3152	1-89;1-351;1-430;2-484;2-475
3153	1-361;1-383;1-435;1-459
3155	1-340;1-448;1-464;1-505;1-491
3156	1-502;1-469;1-468;4-473;5-467;5-414;45-490;45-114;45-554;45-591;45-600;45-571;45-528;45-554;45-540;45-559;45-464;45-526;45-554;45-550;45-461;45-516;45-485;45-555;45-476;45-540;45-517;45-551;45-559;45-551;45-516;45-515;45-605;45-518;45-605;45-545;45-542;45-540;45-308;45-549;45-494;45-441;45-555;45-545;45-520;45-526;45-529;45-602;45-559;45-498;45-471;45-549;45-546;45-557;45-546;45-559;45-536;45-502;45-502;45-494;45-555;45-519;45-465;45-559;45-516;45-534;45-589;45-231;45-516;45-557;45-510;45-545;45-556;45-581;45-529;45-543;45-502;45-572;45-529;45-544;45-526;45-555;45-539;45-554;45-519;45-531
3157	1-124;1-317;1-366;5-321;5-392;185-409;185-409
3158	1-470;1-464;1-482;1-464
3159	1-406;1-124;1-486;1-317;1-461;1-524;1-436;1-366;1-489;1-418;5-451;5-321;5-392;34-528;34-471;39-479;40-511
3160	1-127;1-321;1-467;1-488;1-424;1-371;1-442;5-325;5-457;5-397;11-494;34-477;39-485
3162	1-398;1-433;1-482;1-161;1-490;1-394;1-463;1-394;1-494;1-455;1-332;1-361;1-490;1-484;1-490
3163	1-466;71-478;71-475
3164	1-443;1-467;1-480;1-508;1-491
3165	1-426;1-463;1-498;1-353;1-439;1-486
3166	1-479;20-538
3168	1-471;21-468;21-420
3169	1-490;1-475
3170	1-563;1-447;3-484;3-218;3-445;9-485;9-550;9-397
3171	1-459;1-489

Seq Id No.	Positions of biological 5'ESTs
3172	1-503;1-277;93-598;113-583;113-545;161-694;175-640;221-661;221-712;222-324;222-771;222-709;222-712;222-659;222-466;222-691;222-713;222-558;222-692;222-716;222-717;250-751;250-746;250-744;250-735;250-639;250-732;256-784;347-826
3173	1-376;1-455
3175	1-484;1-202;1-426
3176	1-482;1-457
3177	1-431;1-482
3178	1-441;1-434;1-412;1-441;1-368;1-443;1-435;1-447;1-441;2-406;9-435;9-406;12-432;12-250;12-438;12-435;12-441;12-431;12-435;12-403;12-291;12-440;12-441;12-258;13-317;13-497
3179	1-485;33-400;33-353;33-309
3181	1-461;4-380;4-451;4-517;5-243
3182	1-470;1-501;1-510;1-248;1-393;1-516;1-362;1-496;1-475;1-491;1-489;1-473;1-577;1-468;1-499;1-473;2-479;2-496;2-509;2-517;31-254;48-485
3183	1-349;3-434;3-447;3-356;3-439;3-434;3-433;3-437;3-414;3-406;3-434;3-451;3-439;3-437;3-404;3-446;3-428;3-355;3-420;3-447;3-406
3186	1-454;1-501;1-539;1-474;1-474;1-460;1-539
3187	1-478;1-520;1-497;1-415
3188	1-196;1-254;1-74;1-52;1-153;7-411;7-444;23-309
3192	1-438;1-446;1-66;22-517;30-302;30-527;34-324
3193	1-495;1-757;1-455
3194	1-406;1-479;1-474;1-413;1-462;1-503;1-439;1-387
3195	1-484;1-388;1-486
3196	1-482;1-489;1-410
3197	1-494;1-473
3199	1-496;1-401
3204	1-375;1-526;1-331;1-405;25-442;25-510;25-526;25-508;25-509;30-495;35-531;36-517;36-442;36-517;36-532;36-404;36-435;36-532;37-484;37-478;37-517;42-517;42-406;42-478;42-403;43-403;43-380;43-499;43-526;44-477;44-517;44-484;52-480;57-483;57-347;57-538;58-516;58-498;58-517
3205	1-455;1-533;1-453;1-461;1-474;1-490;1-517
3208	1-381;5-518;6-478
3209	1-505;17-413
3211	1-75;26-403;57-385;57-345;57-419;98-344;98-577

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3215	1-474;1-344
3217	1-413;1-453;1-469;1-526;1-500;1-448;1-501;1-454;1-413;31-328
3219	1-480;1-509;1-480;1-475;1-444;1-477
3221	1-354;1-492
3223	1-411;1-141;1-136;1-220;1-419;1-517
3225	1-473;1-471;1-321;1-497;1-459
3226	1-432;50-333;98-536;98-564;98-573;99-511;126-601;134-576
3227	1-185;1-420;1-476;1-403;1-516
3228	1-513;1-184;1-377
3230	1-455;1-471;1-321;1-473;2-483;2-454;6-459;6-458;9-509;9-548;11-360
3231	1-321;5-522;5-539;8-514;8-443;11-360
3232	1-487;1-523
3236	1-342;6-465;6-516;6-580;6-469;6-411;6-354;56-524;56-513
3237	1-342;20-499
3238	1-489;1-527;1-347;1-587
3239	1-484;1-473;1-454;1-493;1-321;1-483;1-485;173-614;178-576;179-600;179-346;179-597;198-600;208-725;216-748;216-303;216-707;216-665;217-736
3240	1-468;1-397;1-371
3241	1-488;1-487;1-457;1-486;1-321;1-496;1-476;173-620;178-581;179-345;179-690;179-599;216-303;216-671
3242	1-490;1-461;1-71;1-290;1-440;1-454;1-382;1-460;3-334;6-525
3243	1-466;1-465
3245	1-367;1-597
3248	1-445;19-508;19-500
3249	1-499;1-489
3250	1-494;1-134;1-503;1-199;1-484;1-461;1-444;22-108;27-158;27-268;27-167;27-98;27-94;27-229;27-82;27-125;27-230;27-257;27-123;27-248;27-215;27-268;27-182;27-150;27-112;27-231;27-201;27-212;27-257;35-120;37-130;37-218;37-237;40-149;40-245;40-186;60-115;60-159;60-254;60-172
3251	1-199;1-134;1-430;22-108;27-257;27-230;27-212;27-273;27-158;27-229;27-269;27-94;27-248;27-268;27-98;27-125;27-257;27-167;27-150;27-201;27-456;27-112;27-215;27-231;27-82;27-123;27-182;35-120;37-218;37-237;37-130;40-186;40-149;40-245;60-172;60-159;60-254;60-115
3252	1-199;1-134;22-108;27-98;27-167;27-248;27-182;27-123;27-158;27-94;27-215;27-257;27-229;27-269;27-125;27-268;27-230;27-387;27-257;27-231;27-201;27-212;27-82;27-150;27-112;35-120;37-130;37-237;37-218;40-149;40-245;40-524;40-474;40-507;40-186;60-172;60-115;60-254;60-159;72-507
3253	1-199;1-134;22-108;27-167;27-98;27-381;27-158;27-248;27-257;27-380;27-229;27-396;27-474;27-125;27-231;27-230;27-381;27-352;27-201;27-123;27-257;27-268;27-182;27-94;27-150;27-112;27-268;27-82;27-212;27-215;35-120;37-130;37-218;37-237;40-149;40-245;40-186;60-172;60-159;60-115;60-254
3254	1-473;1-512;2-135;2-515;2-200;2-441;2-478;2-410;2-407;2-439;2-362;2-473;23-386;23-109;28-517;28-510;28-533;28-468;28-478;28-505;28-530;28-168;28-515;28-506;28-99;28-366;28-409;28-546;28-445;28-524;28-546;28-283;28-437;28-451;28-505;28-435;28-521;28-533;28-434;28-432;28-533;28-473;28-467;28-385;28-533;28-552;28-503;28-533;28-446;28-419;28-507;28-432;28-505;28-431;28-448;28-518;28-321;28-546;28-502;28-514;28-546;28-493;28-288;28-495;28-358;28-552;28-511;28-510;28-479;28-159;28-449;28-546;28-455;28-431;28-455;28-468;28-474;28-432;28-469;28-462;28-471;28-505;28-384;28-467;28-513;28-466;28-434;28-409;28-505;28-419;28-471;28-441;28-412;28-435;28-357;28-495;28-517;28-435;28-505;28-514;28-419;28-480;28-434;28-531;28-513;28-276;28-521;28-443;28-432;28-499;28-258;28-459;28-411;28-546;28-415;28-510;28-528;28-230;28-431;28-552;28-552;28-321;28-468;28-410;28-446;28-449;28-419;28-505;28-513;28-435;28-450;28-511;28-420;28-126;28-450;28-514;28-496;28-455;28-546;28-503;28-364;28-546;28-446;28-398;28-546;28-95;28-513;28-515;28
3258	1-468;67-533
3259	1-464;1-463
3264	1-344;1-445;1-469
3265	1-460;1-435
3266	1-103;1-86;1-507;1-511;1-505;1-486;1-362;1-278;1-426;1-458;1-471;1-402;1-479;1-158;1-483;1-481;2-482
3269	1-447;1-496;1-503;1-490
3271	1-494;7-92;7-427;7-220;7-93;7-509;7-491;7-56;7-92;8-529;8-473;9-154

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3273	1-401;1-381
3275	1-461;25-325;32-399;32-407;47-185;47-400;47-364;47-378;47-240
3276	1-302;4-465;8-499;8-470;8-384;8-376;8-465;25-501;25-217;25-162;25-377;25-500;25-593;25-355;25-341;25-513;146-627
3277	1-420;20-475
3280	1-308;1-478;1-215;1-311;1-505
3281	1-468;1-513
3282	1-444;1-479;1-444;1-461;1-246;1-486
3283	1-470;1-338;1-555;1-450
3285	1-353;7-468
3287	1-423;253-479
3288	1-452;9-482
3290	1-488;1-484;1-401;1-480;1-478;1-393;1-417;1-428;1-463;1-453;1-489;1-401;1-481;1-482;1-458;1-439;1-480;1-480;1-411;1-476;1-480;1-465;1-411
3293	1-460;1-460
3295	1-53;1-477;1-551;1-469;1-499;1-500;1-159;1-280;1-482;1-507;1-499;1-502;1-493;1-463;1-481;1-453;1-573;1-442;1-457;83-561
3297	1-376;1-468;1-509;1-449;1-442;1-122;3-465;11-468;11-449;11-418;11-354;11-462;11-490
3301	1-438;1-542;1-391;1-440;1-288;1-430
3305	1-399;1-427;4-441;4-407;5-454;11-407;21-441;22-449;22-423;22-432;31-453;31-405;38-243;40-127;43-379;43-460;43-255;43-420;43-407;43-400;43-300
3306	1-478;1-472
3308	1-98;1-435;1-524;1-488
3309	1-308;1-309;1-306
3311	1-444;2-75;2-75;3-435
3312	1-135;1-932
3319	1-361;1-338;5-556;8-501
3321	1-496;1-599
3322	1-213;1-222;1-402;1-397;1-75;1-75;1-456;1-473;1-359;1-397;1-437;106-292;106-282
3323	1-326;1-367;1-468;1-176;1-406;1-342;1-479;1-142
3325	1-329;2-440;2-425;2-467;2-460;2-480;2-479;2-465;2-172;2-480;2-464;2-477;2-466;2-480;2-464;2-479;30-485
3327	1-485;51-572
3328	1-473;1-527;1-466;1-464
3329	1-397;1-481
3330	1-397;1-471
3331	1-446;2-445;2-266;2-407;10-477;14-503;40-427;40-266;40-442;40-528;44-501;44-503;44-342;44-483;44-484;44-486
3335	1-479;1-401
3337	1-473;1-468;29-463;432-846
3338	1-481;10-177;10-527;10-505;13-495;13-514;13-525;15-503;15-488
3340	1-123;12-431
3341	1-431;26-505
3342	1-464;1-232;1-219
3343	1-522;1-531;1-554;1-519;1-474;1-468;1-286;4-530;27-581;29-468;41-537;41-510;41-592;41-536;41-565;41-537;41-554;41-448;41-467;41-510;41-539;41-493;41-568;41-590;41-537;41-540;41-567;41-220;41-563;41-584;41-581;42-521;42-583;42-583;42-511;42-509;42-589;42-511;42-519;42-595;42-533;42-572;42-511;42-554;42-490;42-466;42-565;42-530;42-494;42-548;44-509;44-297;44-588;44-537;44-575;45-540;45-559;45-403;45-510;45-511;45-511;45-509;45-510;45-540;45-572;45-540;45-532;45-510;45-559;45-519;45-563;45-540;45-207;45-531;45-403;45-574;45-475;45-510;45-500;45-467;45-538;45-567;45-492;45-564;45-579;45-540;45-445;45-500;45-551;45-479;45-509;45-296;45-595;45-530;45-192;45-540;45-510;45-540;45-530;45-493;45-416;45-500;45-567;45-596;45-581;45-530;45-530;45-511;45-553;45-240;45-591;45-540;45-297;45-530;45-183;45-540;45-471;45-510;45-592;45-537;45-493;45-579;45-492;45-519;45-491;45-530;45-509;45-559;45-540;45-530;45-570;45-567;45-568;45-567;45-540;45-220;45-520;45-581;45-595;45-430;45-563;45-211;45-540;45-568;45-509;45-584;45-535;45-
3344	1-275;40-404;41-473;41-496;41-213;41-464;41-481;41-465;41-454;41-496;41-164;41-407;41-473;41-476;41-495;41-489;41-496;41-480;41-485;41-481;41-474;41-481;45-212;45-184;45-281;45-245;45-198;45-202;45-175;45-228;45-281;46-124;46-492;46-478;46-281;47-218;47-281;49-478
3345	1-393;1-550;1-394;1-413;1-311;1-340
3346	1-507;1-504;1-392;1-269;1-485;1-506;1-416;1-475;1-109;1-482;5-287;5-82
3347	1-269;1-109;5-496;5-287;5-82
3349	1-471;1-527
3353	1-461;88-458

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3354	1-455;1-454;1-504;1-472;1-447;1-365;1-502;1-405;1-494;1-454;1-387;1-477;1-480;1-477;1-488
3357	1-453;1-479;1-532;1-468;1-513;1-436
3358	1-475;1-426
3360	1-454;245-593
3361	1-460;1-509
3362	1-456;1-457;1-220;1-470;1-496;1-502;1-362;1-472;32-429;34-589;34-362;34-243;34-511;34-518;34-500;34-421;34-489;34-483;34-580;34-448;34-475;34-428;34-447;34-514;34-458;34-492;34-516;34-501;34-437;34-88;34-364;34-483;34-214;34-499;34-590;34-397;34-475;34-430;34-418;34-488;34-551;34-362;34-590;34-473;34-590;34-471;34-457;34-517;34-498;34-449;34-483;34-342;34-492;34-510;34-387;34-532;34-475;34-541;34-486;34-523;34-433;34-482;34-515;34-462;34-594;34-489;34-434;34-541;34-234;34-580;34-483;34-431;34-378;34-590;34-492;34-488;34-590;34-515;34-569;34-287;34-575;34-513;34-518;34-487;34-511;34-580;34-499;34-301;34-522;34-528;34-576;34-498;34-488;34-480;34-555;34-338;34-342;34-507;34-489;34-429;34-488;34-507;34-520;34-487;34-483;34-574;34-487;34-487;34-498;34-541;34-361;34-523;34-551;34-590;34-487;34-447;34-471;34-510;34-519;34-561;34-422;34-442;34-517;34-313;34-544;34-456;34-551;34-195;34-494;34-458;34-472;34-482;34-590;34-492;34-459;34-363;34-478;34-315;34-546;34-486;34-497;34-501;34-539;34-478;34-417;66-501;66-550;66-3
3363	1-457;1-220;1-470;1-496;1-456;1-502;1-362;1-472;32-429;34-362;34-487;34-500;34-518;34-421;34-489;34-483;34-475;34-448;34-428;34-520;34-487;34-492;34-456;34-342;34-539;34-362;34-364;34-483;34-499;34-214;34-458;34-475;34-397;34-418;34-551;34-546;34-488;34-471;34-517;34-473;34-498;34-483;34-342;34-510;34-492;34-387;34-532;34-449;34-541;34-486;34-475;34-555;34-515;34-462;34-489;34-88;34-523;34-234;34-483;34-378;34-492;34-433;34-515;34-567;34-541;34-513;34-518;34-487;34-499;34-458;34-301;34-522;34-482;34-514;34-498;34-437;34-488;34-431;34-287;34-480;34-501;34-429;34-488;34-487;34-195;34-430;34-551;34-498;34-487;34-519;34-361;34-523;34-482;34-544;34-338;34-471;34-447;34-510;34-243;34-511;34-447;34-516;34-483;34-457;34-434;34-315;34-494;34-541;34-507;34-492;34-459;34-422;34-486;34-501;34-507;34-528;34-472;34-363;34-478;34-442;34-497;34-478;34-417;34-488;34-551;34-517;34-313;34-511;34-489;66-550;66-376;66-501;67-503;70-480;70-548;70-488;72-544;72-512;72-567;72-475;72-539;72-513;72-561;72-497;72-507;72-566;72-566;72-5

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3364	1-220;1-457;1-470;1-496;1-456;1-502;1-362;1-472;32-429;34-589;34-362;34-510;34-243;34-511;34-518;34-421;34-489;34-500;34-580;34-448;34-475;34-608;34-428;34-483;34-608;34-458;34-492;34-607;34-429;34-576;34-608;34-612;34-364;34-483;34-499;34-214;34-590;34-397;34-475;34-456;34-418;34-551;34-362;34-590;34-488;34-471;34-590;34-88;34-517;34-473;34-498;34-483;34-342;34-510;34-492;34-532;34-387;34-449;34-541;34-486;34-475;34-523;34-287;34-515;34-462;34-595;34-489;34-546;34-433;34-234;34-580;34-483;34-342;34-378;34-590;34-492;34-541;34-590;34-515;34-569;34-488;34-513;34-575;34-518;34-487;34-580;34-523;34-499;34-301;34-522;34-482;34-608;34-498;34-514;34-442;34-555;34-480;34-338;34-516;34-501;34-488;34-437;34-539;34-608;34-482;34-520;34-487;34-430;34-447;34-498;34-487;34-517;34-361;34-422;34-483;34-434;34-611;34-447;34-487;34-590;34-528;34-561;34-507;34-544;34-431;34-457;34-590;34-478;34-487;34-494;34-541;34-519;34-486;34-492;34-459;34-497;34-501;34-315;34-488;34-507;34-472;34-551;34-363;34-417;34-458;34-551;34-478;34-1
3368	1-105;6-540;46-568;49-535;49-524;49-540
3369	1-105;1-473;1-311;1-465;1-437;1-478;1-463;1-455;1-471;1-457;1-461;1-460;1-452;1-465;6-458;20-361;21-307;26-489;26-498;26-511;26-484;26-479;26-461;26-488;26-397;26-480;26-193;28-469;28-488;28-161;38-532;38-498;46-439;46-520;49-451;49-409;51-308;51-545;51-308;51-469;58-493
3379	1-446;1-461
3380	1-147;1-490
3382	1-510;142-673;142-657;179-556;181-724;182-602;182-660;193-738;199-680;205-680;205-680;214-671;214-526;214-679;217-315
3383	1-486;1-443
3384	1-467;1-494;1-462;1-354;1-261;1-485;1-487;1-473;1-500;1-289;1-451;1-474;1-456;15-436;29-413;29-519;40-505;40-534;63-559;63-532;64-560;64-457;64-457
3385	1-421;1-301;1-163;1-340
3387	1-480;1-254;1-453
3388	1-579;1-252;11-527
3389	1-566;1-490

Seq Id No.	Positions of biological 5'ESTs
3391	1-401;1-459;1-526;1-492;1-445;1-360;1-457;1-485;1-410;1-480
3392	1-434;1-478
3394	1-465;1-160
3395	1-380;1-469
3396	1-211;3-316
3397	1-463;1-477;1-450
3402	1-349;1-498
3406	1-577;1-406;1-413;7-356;7-490;14-480;14-461;14-456;14-484;219-618;219-726
3410	1-451;1-227
3411	1-488;1-475;1-495;1-488;1-487;1-406;1-424
3412	1-484;3-167
3415	1-463;116-585
3417	1-413;11-423;12-547
3418	1-509;2-203;10-86
3419	1-339;1-250;1-339;1-330;1-429;1-419;1-427;1-359;1-357;1-345;1-405;1-519
3420	1-436;1-151
3421	1-472;8-77;8-83;8-104;8-149;8-61;8-133
3422	1-485;1-522;1-265;1-422;1-392;1-446;1-485;1-506;1-528;1-505;1-490;1-578;1-431;1-558;1-434;1-522;1-358;1-489;1-460;1-499;1-491;1-164;1-503;1-298;1-181;1-442;1-487;1-481;1-493;1-435;1-496;1-483;1-503;1-485;1-344;1-588;1-446;1-381;1-313;1-489;1-555;1-477;1-519;1-399;1-503;1-510;1-588;1-473;1-497;1-419;1-535;1-519;1-519;1-387;1-380;1-568;1-594;1-485;1-518;1-436;1-485;1-364;1-341;1-448;1-364;1-499;1-587;1-555;1-530;1-245;1-486;1-420;1-369;1-501;1-426;1-448;1-491;1-460;1-360;1-401;1-268;1-492;1-501;1-447;1-316;1-407;1-499;1-481;1-560;1-419;1-483;1-555;1-519;1-444;1-429;1-498;1-485;1-555;1-486;1-555;1-451;1-499;1-495;1-574;1-322;1-394;1-472;1-486;1-519;1-478;1-512;1-499;1-426;1-477;1-485;1-471;1-329;1-588;1-588;1-76;1-97;1-475;1-473;1-503;1-484;1-485;1-421;1-561;1-476;1-474;1-342;1-560;1-472;1-503;1-478;1-426;1-481;1-485;1-492;1-562;1-519;1-349;1-479;1-378;1-264;1-368;1-503;1-429;1-142;1-303;1-464;1-477;1-54;1-386;1-546;1-440;1-436;1-503;1-489;1-555;1-499;1-578;1-126;1-457;1-472;1-397;1-491;1-440;1-568;1-501;1-242;1
3423	1-265;1-76;1-97;1-164;1-298;1-181;1-378;1-429;1-378;1-264;1-142;1-54;1-378;1-126;1-245;1-242;1-268;1-268;1-70

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3430	1-502;1-498;1-474;1-499;1-418;1-283;1-804;1-499;1-298;1-269;1-487;1-527;1-452;1-512;1-475;1-305;1-488;1-338;1-316;1-534;1-282;1-469;1-507;1-239;1-299;1-500;1-484;1-306;1-331;1-507;1-509;1-499;1-457;39-125;39-237;48-366;48-499;48-421;48-353
3431	1-299;1-290;1-332;1-496;1-524;1-363;1-493;1-385;1-470;4-509;4-489;4-357;4-442;5-476;10-457
3433	1-182;1-277;1-420;1-473;1-440;1-420;1-466
3434	1-448;7-489
3435	1-475;1-588;30-410;46-508;48-547;48-425;48-300;65-414;65-553
3436	1-475;1-465;1-135;1-446
3438	1-476;1-465;1-135;1-488;1-446;3-556
3440	1-471;142-550;150-614;150-599;150-651
3441	1-410;1-324;1-362;1-364;1-453;1-356;1-399;1-356;1-362
3442	1-406;1-436;1-450;1-335;1-222
3443	1-505;58-515;58-138
3444	1-311;1-439
3446	1-387;140-536;323-600;527-741
3447	1-469;1-495
3448	1-518;1-398;13-463;13-410;13-346;13-389;13-393;13-374;13-487;13-497;13-488
3450	1-387;1-382;1-503;1-372;1-222;1-455
3451	1-452;1-441;1-426
3454	1-283;4-167;4-95;4-101;4-179;4-177;4-125
3455	1-498;1-540;1-540;7-103
3456	1-325;1-327;1-450;1-140;1-353;1-264;1-94
3457	1-325;1-327;1-486;1-489;1-473;1-472;1-515;1-474;1-465;1-508;1-465;1-529;1-140;1-473;1-498;1-489;1-483;1-353;1-515;1-264;1-571;1-94
3458	1-478;1-357;1-462;1-323;1-427
3459	1-549;9-520;9-254;9-435;9-508;9-565;9-492;9-448
3460	1-481;1-432;4-482;40-475;40-442;40-423;51-543;51-423;57-385
3462	1-546;1-525
3465	1-526;3-440

Seq Id No.	Positions of biological 5'ESTs
3466	1-490;2-486;3-260;3-519;3-643;3-562;3-260;4-538;4-560;4-519;4-501;4-546;6-499;6-517;6-521;6-498;6-518;6-473;6-260;6-574;6-442;6-518;6-412;6-468;6-490;6-487;6-248;6-378;6-386;6-442;6-485;6-442;6-501;6-457;6-501;6-537;6-275;6-490;6-458;6-518;6-474;6-486;6-368;6-501;6-360;6-561;6-509;6-499;6-501;6-477;6-385;6-490;6-543;6-291;6-485;6-583;6-384;6-431;6-490;6-518;6-562;6-457;6-153;6-458;6-490;6-477;6-486;6-487;6-597;6-458;6-509;6-517;6-159;6-57;6-518;6-538;6-501;6-384;6-493;6-470;6-500;6-521;6-498;6-458;6-486;6-487;6-471;6-597;6-400;6-249;6-518;6-431;6-563;6-548;6-546;6-474;6-521;6-583;6-578;6-487;6-509;6-477;6-500;6-487;6-500;6-202;6-214;6-482;6-501;6-517;6-483;6-442;6-478;6-431;6-501;6-260;6-548;6-487;6-499;6-427;6-548;6-521;6-601;6-509;6-518;6-316;6-547;6-501;6-521;6-486;6-483;6-537;6-487;6-521;6-518;6-546;6-538;6-537;6-518;6-509;6-417;6-455;6-477;6-548;6-521;6-474;6-517;6-574;6-501;6-583;6-249;6-548;6-485;6-490;6-486;6-519;6-509;6-484;6-489;6-259;6-597;6-501;6-427;6-517;6-533;6-471;6-501;6-519;6-536;6-537;6-426
3467	1-468;1-510;1-491
3472	1-402;1-492
3473	1-427;1-438
3474	1-512;1-451
3476	1-404;3-511;3-394
3478	1-498;1-443
3482	1-482;19-504;19-555;35-370;35-304;36-354;46-470;54-484;54-350;54-506;54-531;54-535;54-647;54-647;54-521;54-570;54-659;54-540;54-506;54-555;54-554;54-523;54-566
3483	1-258;3-556;3-306;3-469;17-481;17-468;17-493;21-302;49-129
3484	1-518;1-468;17-337;17-273;18-321;28-435;36-498;36-484;36-503;36-473;36-518;36-517;36-449;36-317;36-486;36-494;36-470
3489	1-527;1-523
3490	1-482;1-432;1-421;1-457;1-450;1-342;1-337;1-419;1-480;1-425;21-435;21-385
3491	1-467;14-350;14-352;34-512;34-483;34-399;37-503;40-401;59-551;75-553;83-561;102-559;103-510
3492	1-466;14-349;14-351;34-398;34-482;37-502;40-400;45-522;102-509
3493	1-231;1-477

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3494	1-230;19-494
3497	1-433;138-520
3498	1-366;20-500;147-684;164-673;164-681
3499	1-465;1-461
3500	1-358;24-608;27-438
3501	1-467;1-141;1-325;1-498;1-502;1-511;1-499
3505	1-502;1-440
3507	1-350;1-497
3508	1-470;1-452
3509	1-487;1-406;1-467;1-490;1-530;1-481;3-469;3-290;3-469;3-141;3-479;4-361;4-455;4-465;4-409;5-475;8-87;8-92;8-406;8-485;8-123;8-223;8-268;8-508;8-478;8-151;8-105;8-110;8-486;8-347;8-480;8-511;8-468;8-239;10-508;10-471;11-553;11-242;11-166;11-457;11-153;11-470;11-494;11-497;11-457;11-557;11-523;11-412;11-469;11-278;11-481;21-154;27-163;27-418;27-156;27-394;27-510;27-465;27-473;27-346;27-92;28-92;39-270;41-93;41-462;41-415;41-409;41-521;41-269;41-515;41-489;41-402;41-532;41-481;41-159;41-415;41-515;41-461;41-395;41-396;41-535;41-552;41-552;41-539;41-467;41-518;41-468;41-272;43-409;43-523;43-117;43-112;43-275;49-133;49-489;49-460;49-529;49-547
3510	1-139;6-85;6-90;6-121;6-108;6-103;6-149;9-151;9-164;19-152;25-154;25-90;25-161;26-90;39-157;39-91;41-110;41-115;47-131;49-495
3512	1-492;1-155;1-405
3514	1-450;1-217;1-469;1-459;1-421;1-441;1-245;1-450;1-460;1-461;1-454;1-450;1-432;1-454;1-414;1-369;15-467;30-391
3518	1-492;19-470;21-475;50-491;361-752;361-754
3519	1-459;263-657;263-655
3520	1-489;1-490
3521	1-88;1-517
3522	1-267;66-530;66-406;66-521;66-423;66-477;66-461;66-500
3523	1-497;1-503;1-490
3524	1-477;2-456;2-484;4-513;22-350;22-486;38-545
3525	1-419;1-502;1-461;1-464;80-472;80-545;80-572;80-551;81-215
3528	1-462;1-476;1-463;1-407;1-475;1-477;1-420;1-473;1-502;1-470;2-407;5-410;5-485;5-471;5-466;5-450
3534	1-343;1-218;279-765;331-787
3535	1-260;1-482
3538	1-462;1-469;1-468;1-494;1-393;1-395;1-485;1-464
3540	1-52;1-500;1-499
3546	1-440;1-83;1-447;1-466
3547	1-83;7-470
3548	1-382;1-496
3551	1-354;93-370;101-494
3552	1-490;1-433
3553	1-484;1-500;1-479;1-481;1-381;1-370;1-523;1-455;1-454;1-456;1-394;1-452;1-420
3555	1-493;6-354;31-531;72-424;72-413;85-561;85-561;85-565;85-561;85-565;85-412;85-548;85-560;85-532;85-557;85-548;85-561;85-549;85-487;85-565;85-178;85-481;85-565;85-565;85-531;85-539;85-408;85-565;85-357;85-547;85-554;85-563;85-556;86-664
3556	1-493;6-354;31-531;72-413;72-424;85-561;85-581;85-565;85-561;85-567;85-412;85-561;85-549;85-560;85-581;85-532;85-557;85-565;85-548;85-556;85-487;85-563;85-178;85-481;85-565;85-566;85-531;85-539;85-408;85-566;85-357;85-547;85-554;85-548;85-561;85-579
3557	1-242;1-244;1-244;1-239
3559	1-548;1-347;1-454
3561	1-448;2-394;5-332;5-330;5-481;5-435;5-405;12-415;12-478;12-489;12-466;16-155;23-447;23-540;27-478;27-479;27-489;27-507;27-522
3564	1-410;1-481;1-510;1-427;1-535;1-524;1-456;1-201;1-428;1-526;1-472;1-435;1-363;1-471;1-319;1-377;1-517;1-271;1-471;1-313;1-470;1-334;1-508;1-516;1-216;1-401;1-334;1-442;1-503;1-473;1-553;1-344;1-376;1-535;1-498;1-421;1-475
3565	1-478;1-491;1-467;1-477;1-444
3567	1-416;1-459
3568	1-499;31-489;39-471;39-509;39-194;39-117;39-108;39-448;39-410;39-432;40-538;41-451;41-458;41-437;41-196;41-289;41-518;41-514;41-297;41-368;41-512;41-482;41-512;41-449;41-519;41-502;41-391;41-513;41-480;41-521;41-494;41-470;41-279;41-392;41-466;41-487;41-220;41-522;41-519;41-478;41-502;41-532;41-531;41-491;41-130;41-498;41-494;41-521;41-434;41-482;41-482;41-145;41-301;41-306;41-496;41-498;41-419;41-533;41-439;41-280;41-522;41-482;41-453;41-469;41-477;41-532;41-516;41-191;42-161;42-451;42-499;42-269;42-472;42-439;42-420

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3569	1-381;10-433;11-482;39-487;39-533;39-522;39-543;39-541;39-487;39-578;39-375;39-433;39-462;39-503;39-108;39-533;39-485;39-567;39-117;41-494;41-411;41-505;41-532;41-289;41-581;41-529;41-549;41-499;41-496;41-482;41-384;41-220;41-508;41-531;41-324;41-530;41-534;41-418;41-196;41-482;41-519;41-526;41-539;41-539;41-556;41-518;41-453;41-531;41-486;41-595;41-506;41-534;41-534;41-280;41-548;41-451;41-515;41-532;41-493;41-536;41-522;41-492;41-508;41-544;41-434;41-573;41-489;41-391;41-453;41-532;41-297;41-482;41-441;41-529;41-543;41-339;41-517;41-548;41-508;41-411;41-440;41-306;41-488;41-496;41-489;41-480;41-518;41-560;41-532;42-532;42-557;42-526;42-540;42-532;42-439;42-507;42-531;42-269;42-542;42-557;42-562;42-531;42-533;42-492;42-506;42-481;43-464;43-481;43-511;165-325
3573	1-436;1-464;1-459;1-390;1-436;1-429;1-478;1-437;1-500;1-405;1-409;1-504
3574	1-325;1-483;55-557
3578	1-301;1-228;1-413;1-321;1-395;1-404
3581	1-271;13-479;16-448;16-458;16-426;16-492
3582	1-489;1-461;2-382;2-493;2-455;2-391;2-465;2-482;2-483;2-302;2-295;2-503;2-468;2-339;2-413;2-446;2-466;2-484;2-489;2-482;2-468;3-505;3-494;3-510;3-483;5-466;5-471;5-487;5-303;5-460;5-167;5-527;5-481;37-496
3583	1-443;1-516;1-459;1-184;1-451;1-459;1-376
3584	1-491;2-461;2-483;2-439;2-393;2-453;2-501;2-468;2-371;3-492;3-137;3-456;3-137;3-137;3-395;3-446;3-137;3-455;3-443;3-392;3-461;3-438;3-137;3-446;3-493;3-266;3-137;3-468;3-137;3-477;3-485;3-468;3-137;3-456;3-456;3-259;3-125;3-457;3-495;3-137;3-510;3-137;3-379;3-137;4-459;4-373;8-457;40-458;40-509
3588	1-406;1-446;1-379;1-439;1-484;1-539;1-468;1-461;1-533;1-363;1-192;1-454;1-446;1-465;1-558
3589	1-637;1-475
3590	1-477;1-448;1-441;1-397;1-259;1-436;1-474;1-373;1-308;1-436;1-447;1-474;1-441;1-473;1-477
3591	1-459;1-449
3593	1-327;1-446;1-475;1-459;1-418;1-418;4-492;4-308;4-446;4-446;4-489;4-414;4-203;4-384;4-467;4-385;4-436;4-451;4-319;4-469;4-385;4-472;4-418;4-411;4-492;4-349;4-426;4-376;4-400;4-67;4-470;4-70;4-72;4-461;4-426;4-67;5-446;5-474;11-69;11-446;11-68;11-487
3594	1-350;1-465;1-388;1-512;1-382;1-321
3595	1-486;1-90;1-505;1-571;1-313;1-446
3597	1-396;1-520;1-503;1-436;1-560;1-364
3598	1-417;257-826
3599	1-537;17-489;20-484;23-276;422-853;422-946;422-940
3600	1-477;1-477;9-205;9-64;9-102
3601	1-57;1-380;1-95;1-375;1-392;1-366;1-380;1-307;1-312;1-393;1-394;1-372;1-385;1-198;1-283;1-394;1-376;1-377;1-380;1-379;1-392;1-393;1-372;1-354;1-391;1-376;1-379
3604	1-441;3-416
3607	1-429;4-488
3608	1-475;1-433;1-501;1-469;1-414;1-483;1-304;1-479;1-449;1-430;1-377;1-469;1-402;1-473;1-458;1-428;1-402
3609	1-422;1-492;1-425;207-638
3610	1-440;1-490;1-478
3612	1-438;27-421;27-448;27-421;27-450;27-421;27-510;27-450;27-510;27-421;27-389;27-450;27-442;27-421;28-517;28-429;28-489;28-364;28-450;28-488;28-421;28-421;28-95;28-429;28-416;28-394;29-88;31-436;31-406;31-168;31-450;33-347;337-583;337-699
3614	1-146;1-125;1-179;23-493;42-263
3615	1-491;1-439
3616	1-395;9-549;9-497;9-522;9-527;9-455;9-466;9-117;9-523;9-523;9-455;9-493;9-495;9-466;10-471;16-456;18-227
3617	1-292;1-489
3618	1-467;1-454;1-278;10-77;10-75;10-75;10-75;10-75;10-75;10-77;10-77;10-77;10-75;10-77;10-75;10-75;10-75;10-75;10-77;10-75;10-75;10-75;10-75;10-75;10-77;10-75;10-77;10-75;10-75;10-77;10-75;10-77;48-409;55-469;55-419;55-457;57-396;66-547;76-416;97-515;99-473;103-539;103-473;103-557;103-538;262-753
3622	1-479;1-450
3623	1-454;1-501;1-487;1-505
3624	1-439;1-461;1-479
3627	1-508;11-202;14-553;14-463;18-458;18-381;24-524;24-548;24-460

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3628	1-503;1-522;1-428;1-455;1-436;1-366;1-437;1-489
3629	1-507;1-477;18-490;390-850
3631	1-427;25-458;25-471;25-500
3637	1-310;1-442;1-386;1-406;1-460;1-488
3638	1-352;1-474
3639	1-454;1-486;1-393
3644	1-440;1-485;1-471;1-436
3650	1-473;1-484
3652	1-346;1-414;2-442;3-453;3-458;3-517;3-409;3-443;3-453;3-440;7-456;8-153;18-522
3653	1-400;1-472;1-501;1-160;1-492
3662	1-362;1-347
3663	1-1043;1-456
3664	1-425;22-515;22-520;22-515;48-510;49-517;54-247;55-523;55-527;58-527;63-509;63-498;63-399;63-485;63-498;63-517;63-472;81-391;82-531;82-517;83-260;83-504;83-515;83-506;83-451;83-476;83-477;83-524;83-516;83-498;83-504;83-324;83-260;83-492;83-468;83-506;83-468;83-505;83-401;83-512;83-517;83-484;83-485;84-530;84-493;84-428;84-381;84-527;84-498;84-530;84-524;84-519;84-511;84-516;84-530;84-468;84-510;84-469;84-536;84-422;84-485;84-531;84-492;84-480;84-469;84-491;84-521;84-531;84-529;84-535;84-512;84-517;84-467;84-504;84-532;84-516;84-439;84-512;84-517;84-525;84-517;84-509;84-405;84-510;84-480;84-531;84-516;84-472;84-532;84-535;84-533;84-321;84-506;84-531;84-489;84-507;84-374;84-500;84-456;84-530;84-509;84-467;84-375;84-507;84-492;84-531;84-527;84-518;84-338;84-511;84-531;84-449;84-533;84-485;84-382;84-498;84-472;84-506;84-532;84-525;84-485;84-532;84-522;84-509;84-477;84-527;84-520;84-164;84-531;84-477;84-456;84-510;84-509;84-531;84-523;84-531;84-428;84-304;84-531;84-527;84-523;84-516;84-320;84-525;84-480;84-531;84-
3666	1-424;53-246;62-497;62-484;62-398;62-503;62-497;62-471;80-390;82-475;82-400;82-484;82-323;82-467;82-483;82-503;82-497;82-503;82-503;82-491;82-503;82-259;82-450;82-503;82-476;82-467;82-259;83-438;83-503;83-479;83-468;83-421;83-488;83-479;83-503;83-478;83-404;83-499;83-467;83-320;83-497;83-484;83-380;83-427;83-497;83-374;83-492;83-491;83-443;83-494;83-337;83-136;83-484;83-471;83-381;83-471;83-496;83-468;83-503;83-567;83-448;83-317;83-503;83-476;83-455;83-503;83-427;83-373;83-319;83-479;83-503;83-398;83-478;83-466;83-503;83-503;83-503;83-503;83-491;83-455;83-448;83-402;83-503;83-284;83-477;83-466;83-404;83-467;83-475;83-502;83-324;83-503;83-163;83-490;83-484;83-443;83-471;83-500;83-276;83-448;83-484;83-490;83-466;83-163;83-242;83-284;83-503;83-443;83-443;83-503;83-243;83-490;83-455;83-303;83-503;83-439;83-486;83-483;83-503;83-484;83-443;83-442;83-503;83-476;83-503;83-414;83-494;83-450;83-503;83-428;83-428;83-476;83-492;83-503;83-411;83-494;83-503;83-493;83-436;83-503;83-444;83-503;83-484;83-499;83-472;83-455;83-
3670	1-463;8-550;8-490;8-483;8-330;8-453;8-335
3671	1-444;1-514;1-342
3672	1-460;1-480;1-518;1-488;1-535;1-398;2-335;41-476;43-473;76-597;76-585;76-398;76-369;76-550;76-573;76-546;76-587
3676	1-489;1-586
3678	1-471;1-464
3679	1-343;1-132;1-425;1-495;1-446;1-372;1-422;1-492;1-524
3680	1-336;1-421;1-941;34-497
3681	1-410;12-447;12-496;23-587;32-490;35-537;52-543;52-543;52-484;52-483
3684	1-508;1-414;1-449;1-472;1-504;1-490;1-474;1-466;1-441;2-421
3685	1-284;1-427
3688	1-471;1-465
3689	1-339;1-356;1-525
3690	1-488;1-438;1-513;1-465;41-473;41-473
3691	1-377;1-477;1-529;1-506;1-564;1-477;1-524;1-560;1-471;1-477;1-508;1-488
3693	1-324;39-473
3694	1-410;45-461
3697	1-469;1-467
3698	1-195;1-454;1-382;1-485;5-327

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3699	1-858;1-444
3701	1-273;1-499;1-479;1-334;1-467;1-460;1-493;1-496;1-493;1-462;1-525;1-477;1-496;1-223;1-296;1-514;1-478;1-479;1-487;1-229;1-194;1-482;1-388;1-475;1-572;1-459;1-387;1-497
3702	1-500;1-374;1-479;1-470;1-480;1-504;1-543
3703	1-483;1-487;1-485;1-394;1-487;1-492;1-503;1-491;1-488;1-445;1-452;1-339;1-493;1-471
3706	1-442;8-499;19-451;19-409;42-458
3708	1-496;1-331;13-499;13-517;13-128;13-512;13-514;13-453;13-525;13-506;38-444;57-633;57-500;58-505
3709	1-331;13-128;13-451;38-444;57-500;234-504;234-504
3710	1-560;5-382
3711	1-426;1-461;1-430
3712	1-460;1-471;1-415;1-462;14-457;14-456;14-457;14-466;14-452
3713	1-482;4-350;5-497;5-485;5-499;5-490;28-495;29-494;29-471;36-450;36-499;36-495;49-492;49-492;49-487;49-491;49-497
3715	1-507;1-142
3716	1-483;13-182;239-771;246-675;270-652;270-665
3717	1-501;1-472;1-459;1-508;1-494;1-423;1-478;33-350;72-599;72-558;72-550;72-597;72-513;72-421;72-578
3719	1-435;2-449;2-205;2-511;2-423;3-64;3-462;3-423;3-406;4-388;22-443;25-443;25-140
3720	1-816;1-436;2-450;2-205;2-424;3-64;3-463;3-424;3-407;4-530;4-507;4-389;8-510;22-444;22-816;25-140;25-444
3721	1-469;1-442
3722	1-379;1-466;1-473;1-496;1-331;1-466;1-242;1-486;1-403
3723	1-304;1-408;1-409;1-477;1-465;1-366
3724	1-412;1-469
3726	1-507;1-339;1-491;1-523
3727	1-472;1-483;1-496;1-579
3731	1-250;1-494
3732	1-425;1-524;41-486;57-302
3733	1-381;1-415;1-364;1-479
3738	1-468;1-245;1-463;1-470;1-457;1-244;1-452;1-375;17-432;48-439;48-522;48-544;48-493;48-362;48-466;48-375;48-515;48-397;48-523;48-454;48-467;48-145;48-485;48-520;48-465;48-361;49-328;52-523;52-514;52-516;52-132;52-432;52-430;52-535;52-431;52-477;52-467;52-371;59-542;59-447;59-525;59-481;59-340;59-423;59-375;59-248;59-484;59-357;59-357;59-410;59-447;59-544;59-546;59-564;59-444;59-485;59-428;59-417;59-521;59-351;59-528;59-466;59-467;59-564;59-510;66-534;67-484;67-549;86-556;86-562;86-456;86-360;86-514;86-546;86-531;86-530;86-534;86-485;86-251;86-552
3739	1-433;1-98;5-85;5-68
3740	1-476;1-457;1-473
3742	1-425;4-429;4-382;4-464;4-503;8-67;8-500;8-484;8-500;11-478;18-431;29-509;41-481;41-475;44-496;45-489;45-490;45-484;45-492;45-547;45-515;45-509;45-494;45-508;45-427;45-474;45-509;45-333;45-490;45-415;45-171;45-474;45-463;45-358;45-382;46-395;46-327;46-335;46-413;81-585;82-497;82-499;82-513;82-464;82-523;100-488;100-573;100-506;100-491;100-603;100-500;100-491;100-581;100-591;100-500;112-510;112-504;112-510
3743	1-490;158-613
3744	1-312;1-308;1-247;1-271;2-295;2-193;2-243;2-274;2-159;2-321;2-200;2-212;2-324;2-468;2-288;2-133;2-71;2-491;2-269;2-133;2-331;2-268;2-213;2-159;2-477;4-319;4-303;4-328;4-148;4-331;4-282;5-275;5-145;5-266;5-313;5-323;5-221;5-322;5-325;5-266;5-290;5-327;5-266;5-329;5-266
3746	1-409;1-418;1-301
3748	1-437;50-519;50-495;51-425;51-534
3749	1-380;1-403;1-377;1-446;1-387;1-392;1-373;1-125;1-370;1-393;2-324;16-484;16-506;16-471;16-447;31-379;36-366;38-111
3750	1-389;2-421;2-424;2-405;2-421;2-421
3751	1-389;1-444;2-405
3753	1-499;1-457;1-131;1-462;1-508;2-231;2-465;2-313;2-456;2-332;2-478;3-557;3-281;3-455;3-452;4-513;4-405;4-456;4-357;5-429;11-455;11-63;11-461;11-531;11-465;11-451;11-483;11-453;14-342;23-504
3754	1-380;1-166;1-231;1-371;30-171;99-495

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3756	1-448;2-512;2-99;2-132;2-352;2-98;2-439;2-134;2-245;2-100;2-100;2-100;2-225;2-100;2-134;2-100;2-96;2-117;2-100;4-444;4-494;5-487;5-431;5-525;16-455
3757	1-362;1-350;24-473
3759	1-402;3-518;5-380;5-376;5-438;5-419;5-103;5-365;5-480;5-439;5-478;5-497;24-444;24-440
3760	1-485;1-490;1-58
3761	1-111;1-454;1-447
3763	1-472;1-469;1-372;1-477
3764	1-473;1-480
3766	1-566;1-221;128-470;265-728
3767	1-371;22-478
3769	1-461;1-457
3771	1-69;24-548;24-438;24-477;24-228;24-504;24-471;99-401;113-604;113-612;113-563;113-466;113-441;113-615;113-618;113-465;113-578
3772	1-464;1-177;1-492
3773	1-505;1-370
3774	1-488;1-379;81-518;243-762;598-1060;653-759;714-1157;814-1157;814-1149;822-1101
3775	1-461;1-455;1-466;1-473;1-452;1-443;1-459;1-443;1-443;1-439;1-451;1-453;1-440;1-464;1-473;1-470;1-444;1-342;1-330;1-463;1-443;1-470;1-451;1-460;1-355;1-442;1-464;1-397;1-460
3776	1-178;1-461;1-406;5-494;5-476;5-457;5-542;5-491;5-449;5-452;5-521;5-506;5-520;6-392;17-518;19-517;19-405;19-521;19-1100;19-498;36-176
3777	1-324;1-516
3778	1-64;1-65;1-75;28-504;28-488;28-427;28-505;28-510;28-505;28-496;28-167;28-444;28-494;28-314;28-505;32-183;67-687;67-550;67-405;67-496;72-496;72-597

Seq Id No.	Positions of biological 5'ESTs
3779	1-407;2-445;2-425;2-503;2-488;2-459;2-396;2-488;2-413;2-426;2-431;2-494;2-494;2-420;2-391;2-494;2-464;2-454;2-463;2-435;2-444;2-471;2-461;2-497;2-187;2-489;2-443;2-474;2-473;2-484;2-489;2-470;2-484;2-477;2-481;2-499;3-493;3-457;3-474;3-392;3-499;3-301;3-478;3-485;3-485;3-304;3-510;3-495;3-495;3-507;3-483;3-471;3-474;3-303;3-479;5-489;5-490;5-507;5-484;5-484;5-497;5-443;5-275;5-485;5-496;5-495;5-527;5-473;5-496;5-510;5-484;5-306;5-445;5-472;5-476;5-489;5-388;5-484;5-469;5-479;5-387;5-412;5-488;5-492;5-484;5-443;5-477;5-192;5-496;5-471;5-503;5-492;5-476;5-479;5-484;6-453;6-362;7-415;7-485;7-494;7-487;7-484;7-497;7-476;7-408;7-501;7-192;11-334;13-362;13-299;13-489;33-465;33-496;33-413;33-486;33-485;33-520;33-332;33-466;33-502;33-408;33-511;33-478;33-429;33-492;33-306;33-508;54-386
3780	1-407;2-445;2-484;2-425;2-488;2-536;2-396;2-464;2-499;2-494;2-420;2-494;2-426;2-391;2-463;2-494;2-459;2-431;2-444;2-454;2-471;2-481;2-497;2-488;2-484;2-461;2-503;2-474;2-489;2-413;2-473;2-489;2-435;2-187;2-552;2-470;2-477;2-443;3-457;3-552;3-499;3-392;3-485;3-474;3-485;3-478;3-301;3-493;3-542;3-479;3-510;3-507;3-304;3-495;3-483;3-495;3-471;3-474;3-303;5-490;5-531;5-489;5-306;5-497;5-484;5-443;5-507;5-496;5-485;5-495;5-476;5-473;5-510;5-484;5-445;5-496;5-472;5-484;5-275;5-479;5-387;5-471;5-532;5-484;5-484;5-469;5-489;5-388;5-479;5-492;5-492;5-503;5-412;5-488;5-192;5-477;5-484;5-476;5-496;5-443;6-362;6-453;7-497;7-494;7-484;7-501;7-485;7-415;7-408;7-476;7-487;7-192;11-555;11-334;13-299;13-362;13-489;13-546;33-540;33-465;33-552;33-523;33-496;33-486;33-413;33-332;33-502;33-511;33-485;33-531;33-466;33-492;33-408;33-429;33-306;33-527;33-508;33-478;54-386
3781	1-451;83-534
3782	1-467;2-357
3784	1-484;1-484;1-261
3785	1-291;1-421;1-348;1-442
3786	1-420;1-416;1-414;1-420;1-416;1-420;1-416;1-163;1-416;1-404;1-416;1-416;1-420;1-420;1-416;1-420;1-350;1-416
3787	1-419;1-505
3788	1-491;1-466
3789	1-478;1-488

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3790	1-495;1-443;1-255;1-450
3791	1-389;1-373;1-391;1-398;1-391;1-373
3792	1-488;1-448;1-450;1-287;1-71;1-474;1-430;1-495;2-465
3793	4-363;4-410;13-469;13-481;13-482;13-455;13-480;15-406;15-487;15-461;15-147;15-391;15-425;16-498;16-144;16-492;16-434;16-487;16-449;16-145;16-129;16-479;16-397;16-462;16-391;16-483;16-472;16-484;16-463;16-497;16-443;16-472;16-477;16-491;16-481;16-485;16-483;16-333;16-482;16-443;16-471;16-434;16-481;16-486;16-145;16-480;16-420;16-421;16-434;16-479;16-406;16-462;16-480;16-86;16-484;16-487;16-458;16-446;16-471;16-204;16-139;16-435;16-141;16-480;16-145;16-452;16-403;16-435;16-387;16-458;16-459;16-458;16-482;16-472;16-493;16-243;16-434;16-478;16-470;16-117;16-487;16-450;16-485;16-458;16-441;16-486;16-442;16-422;16-490;16-482;16-460;16-483;16-469;16-418;16-472;17-433;17-441;17-462;17-480;17-423;17-453;17-484;17-484;17-484;17-469;17-451;17-474;17-477;17-303;17-462;17-469;17-463;17-461;17-404;17-462;17-458;17-124;17-440;17-471;17-495;17-419;17-327;17-479;17-445;17-487;17-420;20-344;20-485;20-480;20-386;20-475;46-328;46-349;46-484;46-120

Seq Id No.	Positions of biological 5'ESTs
3794	1-522;1-494;1-492;12-440;12-389;22-563;22-521;22-563;22-522;22-492;22-544;24-437;24-522;24-458;24-420;24-498;24-160;25-534;25-158;25-533;25-551;25-534;25-498;25-544;25-513;25-544;25-483;25-143;25-420;25-522;25-589;25-544;25-498;25-522;25-525;25-522;25-513;25-532;25-521;25-522;25-159;25-572;25-522;25-475;25-475;25-356;25-534;25-561;25-544;25-521;25-522;25-159;25-421;25-450;25-450;25-572;25-513;25-544;25-437;25-571;25-498;25-522;25-534;25-93;25-547;25-522;25-519;25-522;25-542;25-450;25-531;25-522;25-131;25-222;25-542;25-153;25-155;25-544;25-483;25-483;25-495;25-495;25-513;25-534;25-534;25-589;25-495;25-495;25-522;25-429;25-573;25-534;25-553;25-159;25-534;25-450;25-553;25-522;25-496;25-522;25-497;25-544;25-475;25-475;25-563;25-262;25-522;25-534;26-544;26-513;26-522;26-498;26-450;26-522;26-544;26-475;26-483;26-498;26-544;26-475;26-498;26-513;26-138;26-498;26-553;26-544;26-429;26-522;26-319;26-498;26-542;26-544;26-450;26-534;26-475;26-495;26-522;26-450;26-552;26-513;26-563;26-350;29-513;29-577;29-368;57-553;57-544
3801	1-273;1-403;1-403;1-366;1-157;1-462;3-290
3802	1-273;1-468;1-403;1-403;1-366;1-157;3-290
3803	1-475;5-449;50-407;50-507;50-508;50-552;50-547;52-521;52-534;52-533;52-526;52-517;52-238;52-574;88-536;88-579;468-985
3807	1-471;1-445;4-452;4-464;40-498;40-209
3808	1-499;1-446
3809	1-462;1-484;1-473;1-450;1-455;6-477;12-590;36-418;39-538
3810	1-503;1-450
3811	1-476;41-528;46-527;46-509;46-519;46-518;49-526
3812	1-467;29-519
3813	1-483;1-451;1-345;1-518;1-486
3814	1-449;6-515;7-478
3815	1-478;1-480
3816	1-443;1-458
3817	1-85;45-455
3818	1-371;4-484
3819	1-527;1-368
3820	1-368;1-480
3821	1-449;1-436

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
3822	1-481;1-459;1-487;1-437;1-435;1-465;1-569;1-491;1-535;1-513;1-447;1-468;1-469;1-481;1-552;1-414;1-490;1-447;1-459;1-509;1-278
3825	1-463;1-487
3826	1-220;19-511;19-472;19-512;19-448;19-315;28-465;28-480;28-531;28-515;28-199;28-453;28-517;28-456;28-495;28-536;28-495;28-515;28-469;28-411;28-545;31-506;31-532;31-389;31-95;31-480;31-484;31-511;31-518;31-459;31-511;31-459;31-505;31-489;31-507;31-459;31-518;31-441;31-506;31-95;31-508;31-488;31-506;31-95;31-407;31-543;31-463;31-95;31-220;31-107;31-518;31-505;31-476;31-536;31-226;31-503;31-481;31-95;31-496;31-494;31-500;31-496;31-95;31-491;31-480;31-481;31-491;31-483;32-237;32-368;32-468;34-505;42-506;42-493;42-503;57-603
3827	1-105;1-432;1-453;1-400;1-432;1-439;1-351;1-362;1-440;1-261;1-332;1-444;1-352;1-362;1-430;1-441;1-339;1-398;1-419;1-421;1-191;1-287;1-144;1-345;1-432;1-413;1-356;1-190;1-161;1-414;1-379;1-445;1-99;1-441;1-432;1-434;1-464;1-63;1-442;1-441;1-290;1-359;1-451;1-172;1-224;1-285;1-442;1-427;1-270;1-275;1-400;1-453;1-432;1-446;1-419;1-227;1-421;1-459;1-280;1-88;1-454;1-281;1-444;1-442;1-458;1-369;1-464;1-78;1-441;1-431;1-336;1-350;1-442;1-207;1-453;1-453;1-298;1-457;1-431;1-440;1-355;1-465;1-457;1-283;1-340;1-432;1-464;1-231;1-216
3829	1-346;8-577;14-503;16-483;16-455;16-496;16-482;16-478;16-211;16-479;16-517;16-500;16-378;16-457;16-398;35-519;57-530;57-589
3830	1-484;2-335;2-561;2-456;2-480;2-512;2-395;2-550;2-485;2-60;2-470
3831	1-477;1-542
3834	1-592;1-493
3835	1-452;1-209
3837	1-550;1-542
3839	1-517;1-70;1-489;1-456;1-488;1-446;1-533;1-408;1-267;1-456;1-442;1-483;1-529;1-497;1-533;1-536;1-432;1-533;1-506;1-396;1-389;1-469;1-243;11-374
3840	1-70;1-489;1-434;1-456;1-483;1-488;1-408;1-494;1-267;1-456;1-442;1-446;1-426;1-495;1-441;1-432;1-396;1-389;1-469;1-243;1-508;11-374
3845	1-351;1-213
3846	1-432;248-768
3848	1-547;1-539;1-539;1-447;1-314;1-547;1-349;1-539;1-438;1-554;1-547;1-539;1-449;1-554;1-539;1-674;1-497;1-547;1-547;1-375;1-547;1-438;1-547;1-547;1-539;1-438;1-539;1-606;1-438;1-554;1-438;1-564;1-438;1-554;1-547;1-542;1-547;1-547;1-547;1-485;1-438;1-61;1-426;1-480;1-567;1-539;1-438;1-483;1-547;1-485;1-554;1-547;1-423;1-547;1-539
3860	1-468;1-243
3861	1-335;1-424;1-54
3864	1-500;1-513
3865	1-495;8-151;8-166;8-176;8-176;8-158;8-176;8-165;8-179;8-176
3866	1-461;1-470;1-470;1-446
3868	1-368;1-61;1-446;1-467;1-398;1-409;1-450;1-424;1-450;1-425;1-418;1-467;1-278;1-458;1-470;1-500;1-478
3870	1-457;1-503
3874	1-417;189-604;192-419;193-613;193-489;193-548;193-452;193-604
3880	1-452;275-698;278-508;279-707;279-578;279-541;279-698;279-635
3882	1-202;2-205;4-485;6-221;6-221;6-221;6-218;17-114;21-193
7819	1-205;1-186;1-200;1-200;1-200;1-182;1-200;1-200;1-194;1-200;1-196
7828	1-498;58-547;58-418;58-584
7837	1-355;21-477;21-395;57-547
7845	1-355;21-477;21-395;65-562
7851	1-432;1-449

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
7872	1-106;1-556;1-449;1-523;1-551;1-415;1-468;1-556;1-501;1-449;1-556;1-556;1-452;1-496;1-361;1-556;1-556;1-566;1-372;1-452;1-263;1-341;1-487;1-462;1-362;1-372;1-498;1-447;1-507;1-545;1-491;1-507;1-347;1-556;1-413;1-433;1-556;1-433;1-556;1-556;1-194;1-292;1-556;1-551;1-146;1-355;1-449;1-429;1-366;1-552;1-556;1-556;1-193;1-163;1-430;1-488;1-386;1-508;1-463;1-556;1-566;1-466;1-556;1-100;1-449;1-556;1-556;1-556;1-451;1-64;1-479;1-460;1-556;1-497;1-491;1-295;1-489;1-556;1-369;1-510;1-498;1-491;1-179;1-468;1-479;1-228;1-290;1-460;1-79;1-444;1-275;1-487;1-280;1-566;1-500;1-415;1-468;1-509;1-449;1-464;1-433;1-231;1-433;1-478;1-511;1-285;1-556;1-89;1-537;1-468;1-286;1-501;1-462;1-460;1-465;1-466;1-477;1-466;1-508;1-572;1-554;1-489;1-471;1-468;1-507;1-205;1-556;1-488;1-448;1-556;1-344;1-360;1-556;1-487;1-544;1-556;1-564;1-569;1-566;1-556;1-460;1-468;1-365;1-479;1-300;1-499;1-476;1-448;1-452;1-535;1-556;1-220;1-476;1-541;1-288;1-347;1-449;1-479;1-235;2-553;2-538
7920	1-112;1-112;1-171;1-128;2-149
7945	1-238;1-238
7963	1-334;1-334;1-328;1-297;1-334;1-322;1-327
7991	1-450;1-279;1-369;1-519
8242	1-450;1-429
8292	1-401;1-416;1-369;1-457;1-406;1-436
8324	1-459;1-459
8351	1-411;1-476;1-477;1-443
8377	1-150;1-150;1-150
8385	1-438;1-393
8393	1-463;1-322
8401	1-557;1-382;1-425;1-448;1-386;1-419;1-415
8413	1-434;1-492
8421	1-420;1-467;1-484;1-455;1-442
8436	1-518;1-586;4-496
8452	1-429;1-547
8477	1-369;33-114
8508	1-421;1-421;1-421;1-421;1-421;1-363;1-421
8529	1-411;2-223;4-460
8538	1-433;1-459;1-222;3-409
8560	1-379;1-267;1-442;15-233
8586	1-439;1-272
8627	1-411;123-506
8689	1-96;1-366
8821	1-410;1-369
8830	1-446;1-469;1-500;1-505;1-498;1-321;1-213;1-493;1-356;1-480;1-482;1-467;1-454;1-362;1-544;1-136;1-477;1-218;2-537;2-500
8841	1-467;1-475
8862	1-320;1-212;1-355;1-361;1-135;1-217;1-379
8884	1-193;1-206;1-206;1-203;1-206;1-206;1-194;1-194;1-194;1-206;1-194;1-205;1-206;1-206;1-206;1-195;1-199;1-157;1-208;1-206;1-206;1-184;1-194;1-206;1-206;1-206;1-194;1-194;1-205;1-158;1-189;1-194;1-194;1-194;1-206;1-194;1-206;1-194;1-194;1-206;1-206;1-206;1-206;1-206;1-205;1-206;1-187;1-206;1-194;1-146;1-194;1-206;1-206;1-163;1-193;1-193;1-206;3-201
8885	1-437;1-442
8905	1-212;1-212;1-212;1-212
8955	1-326;1-371;1-445
8976	1-399;32-388
8992	1-341;1-469;1-478
9016	1-468;1-515
9024	1-380;1-387
9064	1-431;4-439;5-194
9093	1-175;1-175;1-175;1-170;1-171;1-171;1-55;1-175;1-175;1-171;1-171;1-175;1-175;1-171;1-175;1-171;1-175;1-175;1-175;1-171;1-175;1-175
9097	1-445;1-556;1-294;1-428;1-153;1-435;1-537
9121	1-433;1-205;1-434

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
9177	1-377;1-377;1-86;1-377;1-376;1-377;1-377;1-377;1-109;1-377;1-377;1-139;1-377;1-377;1-362;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-349;1-377;1-377;1-377;1-377;1-364;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-151;1-377;1-377;1-377;1-377;1-377;1-365;1-377;1-377;1-164;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-361;1-377;1-372;1-377;1-377;1-377;1-376;1-375;1-377;1-377;1-376;1-377;1-344;1-377;1-349;1-377;1-377;1-346;1-377;1-377;1-372;1-375;1-377;1-346;1-377;1-377;1-377;1-377;1-376;1-376;1-341;1-377;1-377;1-149;1-377;1-342;1-377;1-377;1-377;1-377;1-349;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-376;1-377;1-365;1-377;1-376;1-377;1-146;1-348;1-377;1-377;1-377;1-377;1-377;1-377;1-346;1-377;1-375;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-384;1-377;1-377;1-169;1-270;1-345;1-377;1-343;1-377;1-377;1-377;1-377;1-377;1-377;1-367;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-377;1-341
9185	1-386;1-386;1-88;1-392;1-385;1-386;1-386;1-386;1-111;1-386;1-386;1-392;1-142;1-386;1-371;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-373;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-349;1-386;1-386;1-386;1-386;1-386;1-386;1-154;1-386;1-386;1-386;1-386;1-386;1-374;1-386;1-386;1-167;1-386;1-386;1-385;1-386;1-386;1-386;1-386;1-386;1-386;1-370;1-386;1-381;1-386;1-386;1-386;1-385;1-384;1-386;1-386;1-388;1-386;1-350;1-386;1-386;1-392;1-386;1-350;1-389;1-386;1-381;1-386;1-384;1-350;1-386;1-387;1-386;1-386;1-385;1-386;1-374;1-386;1-386;1-152;1-349;1-386;1-392;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-387;1-386;1-386;1-386;1-386;1-385;1-386;1-387;1-386;1-392;1-392;1-385;1-149;1-386;1-386;1-386;1-386;1-386;1-386;1-386;1-350;1-384;1-386;1-386;1-386;1-386;1-350;1-392;1-386;1-386;1-386;1-386;1-386;1-386;1-392;1-386;1-386;1-172;1-386;1-272;1-386;1-392;1-386;1-386;1-386;1-387;1-386;1-386;1-376;1-386;1-349;1-386;1-386;1-386;1-350;1-386
9192	1-298;1-312;1-274;1-293;1-313
9208	1-473;1-438
9217	1-397;1-445;1-452;1-451;1-452;1-389;1-442;1-452;1-465;1-449;1-398;1-443;1-429;1-442;1-407;1-432;1-380;1-445;1-452;1-445;1-438;1-133;1-453;1-437;1-434;1-463;1-465;1-448;1-448;1-452;1-448;20-167
9218	1-459;1-447;364-861
9256	1-489;1-490;1-312;1-510;1-490;1-480;1-461;1-434;1-490;1-494;1-417;1-514;1-517;1-531;1-473;1-364;1-476;1-480;1-341;1-134;1-497
9279	1-454;1-288;1-429;1-354;1-497;1-366;1-512;1-444
9299	1-299;1-298
9307	1-394;1-408;1-409;1-420;1-387;1-419
9339	1-483;1-467
9357	1-379;1-389
9362	1-63;1-64;1-62;1-63
9396	1-118;31-328;31-463;31-437;31-476;31-476;31-360;31-463;31-470;31-466;31-460;31-469;31-479;31-401;31-358;31-479;31-344;31-209;31-198;31-364;31-442;31-472;31-255;31-156;31-358;31-402;31-472;31-455;31-460;31-453;31-448;31-400;31-482;31-230;31-339;31-485;31-471;31-469;31-476;31-214;31-359;31-404;31-230;31-470;31-470;31-479;31-323;31-391;31-463;31-485;31-476;31-472;31-100;31-241;31-447;31-460;31-448;31-478;31-470;31-356;31-437;31-214;31-479;31-476;31-379;31-314;31-351;31-482;31-381;31-295;31-485;31-466;31-482;31-466;31-442;31-437;31-472;31-400;31-314;31-470;31-485;31-437;31-345;31-452;31-214;31-482;31-469;31-449;31-349;31-379;31-323;31-482;31-392;31-448;31-252;31-328;31-468;31-476;31-339;31-479;31-358;31-483;31-101
9403	1-119;1-176;31-99;31-100

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
9411	1-119;31-488;31-531;31-366;31-522;31-530;31-529;31-545;31-483;31-544;31-544;31-451;31-544;31-531;31-347;31-523;31-201;31-505;31-530;31-537;31-485;31-532;31-533;31-466;31-365;31-409;31-506;31-496;31-530;31-234;31-344;31-499;31-532;31-506;31-544;31-430;31-521;31-543;31-485;31-520;31-243;31-101;31-453;31-442;31-529;31-530;31-544;31-544;31-220;31-437;31-547;31-540;31-387;31-543;31-505;31-532;31-543;31-439;31-389;31-496;31-508;31-530;31-522;31-538;31-449;31-521;31-524;31-416;31-438;31-530;31-551;31-525;31-354;31-544;31-400;31-533;31-544;31-530;31-508;31-544;31-504;31-508;31-531;31-439;31-531;31-531;31-437;31-544;31-430;31-102;31-333;31-508;31-440;31-520;31-532;31-522;31-508;31-508;31-436;31-540;31-529;31-532;31-506;31-517;31-533;31-522;31-531;31-442;31-158;31-428;31-464;31-523;31-544;31-544;31-507;31-530;31-430;31-482;31-519;31-543;31-544;31-416;31-542;31-488;31-499;31-453;31-437;31-553;31-488;31-544;31-504;31-506;31-530;31-531;31-354;31-521;31-300;31-496;31-544;31-440;31-537;31-455;31-507;31-319;31-437;31-521;31-
9420	1-352;1-357;1-354;1-368;1-358;1-166;1-345;1-358;1-362;1-362;1-359;1-119;1-367;31-100;31-99
9462	1-441;4-105
9546	1-511;1-471;1-256;1-482;47-511;49-501
9553	1-409;1-245
9597	1-456;1-454
9614	1-478;3-244
9622	1-496;1-458;1-479;1-242;1-290;1-357;1-511
9633	1-386;2-432;2-444;2-455
9643	1-420;1-447;1-468;1-453
9652	1-458;95-569
9669	1-285;1-145
9677	1-434;1-405
9721	1-377;1-359;25-376;25-358;30-377;30-378;30-361
9731	1-543;1-543;1-543;1-511;1-494;1-543;1-447;1-621;1-586;1-482;1-543;1-556;1-429;1-543;1-378;1-541;1-543;1-543;1-556;1-511;1-425;1-543;1-538;1-369;1-537;1-543;1-458;2-428
9748	1-368;1-501
9759	1-487;1-453
9769	1-447;1-466
9780	1-415;1-425;1-460;1-542;1-459;1-461;1-432;1-468;1-450;1-402;1-450
9800	1-396;1-393;1-370;1-375;1-399;1-369;1-381;1-391;1-394;1-404;1-387;1-379;1-405;1-383;1-403;1-215;1-388;1-390;1-397;1-387;1-403;1-387;1-304;1-404;1-391;1-404;1-404;1-403;1-387;1-403;1-387;1-377;1-404;1-403;1-341;1-403;1-389;1-384;1-388;1-387;1-389
9836	1-483;1-407;1-497;1-489;3-151
9861	1-455;1-485;1-335;1-523;3-185;3-553;3-472;4-447;4-466;4-496
9879	1-491;1-498;1-504;1-472;1-485
9880	1-191;1-179;1-179;1-191;1-194;1-191;1-121;1-191;1-194;1-194;1-191;1-191;1-191;1-194;1-194;1-194;1-191;1-194;1-194;1-194;1-194;1-194;1-179;1-179;1-179;1-191;1-191;1-194;1-194;1-191;1-191;1-191;1-194;1-194;1-194;1-191;1-194;1-194;1-194
9885	1-382;1-453;97-572;97-585;97-458;97-572;97-578;97-578
9893	1-482;1-468
9918	1-451;345-836;345-822;345-853;345-869;345-867;345-838;345-556;345-840;345-617;345-673;345-777;345-830;345-891;345-816;345-702;345-836;345-827;345-819;345-834;345-503;444-732
9964	1-356;4-469
9988	1-447;1-472;1-467;1-488;1-334;1-474;1-355
10032	1-310;14-527;14-439;14-441;16-395;23-564
10042	1-483;1-406
10073	1-509;1-439
10079	1-497;1-476;1-443;1-498
10088	1-519;1-485
10106	1-351;1-441
10153	1-477;1-413;1-496;1-458;1-349;1-203;1-466;1-399;1-450;1-484
10178	1-243;1-242;1-239;1-210;1-239;1-187;1-246;1-209;1-235;1-221;1-244;1-177;1-91;3-221

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
10295	1-476;1-491;1-511;1-493;1-501;1-512;1-269;2-463;16-463;29-508;29-475;29-515;29-509;29-361;29-463;29-515;29-127;29-476;29-432;29-476;29-476;30-492;30-509;30-481;30-412;30-463;30-480;30-322;30-420;30-460;30-476;30-246;30-510;30-322;30-412;30-498;30-501;30-453;30-511;30-501;30-185;30-511;30-405;30-500;30-506;30-474;30-509;31-503;31-308;31-597;31-507;31-374;31-503;31-510;31-514;31-498;31-358;31-415;31-517;31-494;31-410;31-496;31-504;31-510;31-487;31-503;31-490;31-509;31-494;31-412;31-501;31-502;31-508;31-493;31-474;31-405;31-213;31-248;31-206;31-382;31-509;31-412;31-454;31-512;31-507;31-512;31-127;31-457;31-510;31-463;31-435;31-501;31-496;31-404;31-267;31-496;31-499;31-512;31-460;31-474;31-185;31-270;31-480;31-449;31-90;31-528;31-552;31-500;31-389;31-477;31-499;31-499;31-515;31-510;31-300;31-433;31-553;32-510;32-319;32-474;32-488;32-206;32-382;32-308;32-335;32-322;32-463;32-495;32-499;32-501;32-476;32-427;32-457;32-548;32-390;32-484;32-158;32-508;32-335;32-512;32-126;32-322;32-420;32-496;32-430;32-489;32-506;32-5
10296	1-476;1-481;1-480;1-477;1-393;1-474
10331	1-259;1-259
10339	1-115;1-370;1-361;1-364;1-394;1-427;1-315;1-369;1-364;1-525;1-306;1-457
10348	1-115;1-370;1-361;1-364;1-394;1-427;1-315;1-369;1-525;1-364;1-306;1-457;1-557
10363	1-341;1-401
10377	1-323;1-327;1-103;1-315
10378	1-392;1-444
10408	1-424;1-536;1-525
10413	1-457;1-505;1-474
10421	1-255;1-425
10427	1-198;1-171
10438	1-438;1-476;1-462;1-500;1-419;1-468
10444	1-238;1-463
10445	1-470;1-417;1-470;1-474;1-471
10453	1-75;1-75;1-75;1-75;1-77
10523	1-251;51-530;51-534
10531	1-251;41-300
10538	1-491;74-581;74-514;74-561;75-530
10597	1-445;1-362
10652	1-249;1-404;1-445;1-384
10661	1-419;1-423;1-283;1-407;1-413;1-395;1-412;1-414;1-428;1-420;1-207;1-420;1-415
10679	1-351;1-351
10700	1-468;1-470;1-454
10709	1-120;1-418;1-417
10734	1-472;1-230;1-436
10798	1-375;1-415;1-417;1-362;1-406;1-398;1-416;1-401;1-414;1-414;1-416;1-415;1-167;1-414;1-416
10834	1-55;4-440;4-69;4-165;4-75
10835	1-384;1-418
10845	1-471;1-407;1-407
10903	1-476;1-469;1-262
10963	1-448;157-597
10976	1-338;1-520;1-444;1-284;1-472;1-375;1-512;1-510;1-388
11004	1-486;1-502;1-446;1-359;1-493;1-484;1-436;1-410;1-329;1-441;1-413;1-418;1-544
11011	1-276;1-469
11019	1-350;1-458;1-312;1-453;1-457;1-371;1-341
11036	1-501;1-482;1-462;1-479
11056	1-347;1-340;1-343;1-343
11067	1-493;1-491;1-511;1-476;1-269;1-501;1-512;2-463;16-463;29-127;29-475;29-463;29-508;29-361;29-515;29-515;29-509;29-476;29-476;29-432;29-476;30-412;30-492;30-509;30-463;30-480;30-481;30-185;30-460;30-511;30-474;30-476;30-322;30-498;30-420;30-529;30-453;30-501;30-322;30-246;30-506;30-501;30-412;30-511;30-509;30-405;30-527;30-510;30-500;30-529;31-507;31-248;31-487;31-510;31-494;31-374;31-308;31-415;31-503;31-358;31-410;31-522;31-496;31-510;31-503;31-412;31-494;31-490;31-509;31-498;31-514;31-501;31-504;31-508;31-493;31-474;31-405;31-213;31-502;31-503;31-412;31-382;31-509;31-206;31-507;31-510;31-300;31-512;31-496;31-510;31-127;31-501;31-457;31-463;31-500;31-435;31-528;31-454;31-404;31-267;31-496;31-474;31-512;31-270;31-480;31-449;31-499;31-460;31-389;31-477;31-433;31-499;31-512;31-499;31-90;31-185;31-515;31-530;32-510;32-488;32-319;32-484;32-489;32-427;32-463;32-322;32-506;32-499;32-501;32-474;32-308;32-457;32-531;32-390;32-496;32-158;32-508;32-335;32-512;32-126;32-322;32-420;32-476;32-335;32-495;32-430;32-382;32-4

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
11076	1-436;42-448
11090	1-275;12-103
11135	1-469;13-459
11144	1-383;1-540
11158	1-279;1-405;1-561;1-379;1-566;1-486;1-384;1-482;1-470;1-413
11172	1-529;1-252;1-529
11179	1-522;1-434;1-498;1-434;1-495
11189	1-488;1-408
11207	1-108;1-106;1-108;1-106;1-108
11214	1-367;1-381
11279	1-469;2-386;2-387
11310	1-444;1-485;1-487;1-438;1-489
11321	1-380;1-450
11341	1-162;1-162;1-162;1-162;1-162;1-162;1-162;1-162
11350	1-410;1-272
11360	1-293;1-464
11366	1-459;1-505
11378	1-295;2-76;2-184;2-188
11387	1-415;1-184;2-268;2-276;2-480;2-270;2-377;2-309;2-284;2-76;2-309;2-188;2-276;2-493;2-406;3-428
11449	1-485;1-217
11457	1-233;1-292;1-374
11465	1-231;1-289;3-349
11473	1-293;1-311
11484	1-127;1-267;1-453;1-476
11499	1-477;1-478;1-482;1-504
11509	1-212;1-201;1-212
11527	1-490;76-572;166-589;166-597
11537	1-314;1-371
11565	1-387;1-277;2-236
11584	1-367;1-451;117-460
11595	1-245;1-236;1-245
11606	1-250;1-96
11696	1-337;1-430;1-415;1-403;1-418;5-393
11707	1-93;1-338;1-397
11717	1-128;1-439
11737	1-503;1-525;1-132;1-508;2-308
11747	1-474;1-451;1-501;1-483;1-497;1-477;1-454;1-493;1-562;1-315;1-368;1-460;1-565;1-183;1-482;1-522;1-562;1-565;1-344;1-565;1-446;1-319;1-562;1-467
11757	1-462;1-429
11768	1-448;1-314;1-396
11779	1-189;1-205;1-207;1-100;1-205
11790	1-393;1-279;1-335;1-430;1-479
11801	1-206;1-224;1-196;1-223
11811	1-233;1-235
11822	1-460;2-400;2-460;2-460;2-456;2-460;2-460;2-110;2-348;2-110;2-460;2-456;2-445;2-400;2-460
11833	1-492;1-415;1-492;1-334;1-363
11854	1-96;1-373;7-373
11884	1-423;1-547
11895	1-406;1-402;1-270;1-346;1-386;1-483;1-340;1-401;1-350;1-392;1-464;1-395;1-406
11927	1-489;1-509
11977	1-243;1-437
12071	1-441;1-452
12072	1-412;1-206
12082	1-490;1-365
12091	1-488;1-433
12112	1-478;1-358
12123	1-376;1-72
12134	1-138;4-205
12145	1-264;15-458
12177	1-479;1-450;1-520;1-479;1-465
12197	1-111;1-443;1-438;1-270
12208	1-441;1-465;1-500;1-374;1-472
12218	1-440;1-267
12239	1-446;1-485;1-468;1-410
12278	1-353;1-401
12317	1-400;1-133
12327	1-125;1-126;1-103;1-113;1-128;1-103;1-125;1-125;1-125;1-117;1-125;1-123;1-125;1-114;1-119;1-109;1-74;1-127;1-90;1-113;1-126;1-113;1-113;1-125;1-125;1-81;1-128;1-125;1-121;1-64;1-125;1-125;1-128;1-118;1-125;1-125;1-126;1-127;1-125;1-81;1-128;1-113;1-125;1-64;1-128;1-128;1-125;1-118;1-127;1-113;1-120;1-128;1-125;1-108;1-120;1-125;1-113;1-125;1-128;1-125;1-125;1-126;1-125;1-123;1-125;1-112;1-113;1-90;1-113;1-113;1-125;1-125;1-128;1-97;1-128;1-113;1-128;1-128;1-125;1-125;1-113;1-117;1-125;1-125;1-104;1-125;1-128;1-117;1-104;1-125;1-125;1-97;1-109;1-113;1-90;1-124;1-128;3-126
12437	1-505;1-505;1-431;1-462;1-435;1-434;1-492;1-479
12476	1-478;1-470;1-422;3-434
12485	1-474;1-377;1-483;1-467;1-437;1-418;1-423;1-474
12509	1-418;1-364;1-384;1-445;1-422
12580	1-444;1-406
12590	1-429;1-440

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
12605	1-377;1-102
12618	1-486;1-259;1-446;1-378;1-477;1-544;1-268
12625	1-438;2-404
12635	1-509;1-553
12636	1-426;30-250
12670	1-257;1-220;71-526
12678	1-397;1-184
12687	1-332;15-378;15-393;15-395;15-393;15-375;15-238;15-394
12719	1-290;1-333
12835	1-552;6-490
12844	1-500;1-497;1-429
12854	1-488;1-446;1-508;1-513
12879	1-263;1-502;117-591;117-573;117-597;129-600;129-598;129-541;129-611;129-597;200-604;200-561;241-530
12900	1-393;1-459;1-455
12945	1-199;1-199;1-199;3-482;3-64;5-208
13008	1-176;1-346
13056	1-542;1-483
13085	1-458;1-447
13090	1-266;1-266
13110	1-164;1-375
13117	1-461;1-186
13133	1-363;1-389;1-389;1-385;1-294;1-385
13142	1-395;1-395
13150	1-471;1-459;1-630
13172	1-382;1-381
13180	1-457;258-667
13188	1-87;1-317
13193	1-66;1-66
13198	1-479;1-475;1-474
13207	1-237;1-450
13233	1-439;1-455
13240	1-406;1-414
13267	1-395;1-482;1-398;1-479;1-464;1-396;1-398;1-470;1-333;1-406
13277	1-466;2-290
13286	1-303;1-290
13294	1-433;1-402
13330	1-157;1-160
13336	1-485;1-500
13366	1-263;1-328;1-309;1-311;1-316;1-328;1-316;1-326
13449	1-182;40-167;40-175;40-177;40-177;40-178;40-176;40-174;40-167;40-166;40-179;40-179;40-177;40-174;40-168;40-179;40-132;40-175;40-168;40-168;40-177;40-132;40-183;40-174;40-167;40-174;40-167;40-181;40-174;40-182;40-183;40-176;40-177;40-103;40-183;40-168;40-168;40-175;40-162;40-175;40-174;40-179;40-108;40-154;40-175;40-168;40-178;40-166;40-154;40-164;41-179;85-182;104-177;104-182;104-171;104-163;104-170;104-173;104-177;104-166;104-172;104-176;104-171;104-156;104-182;104-182;104-163;104-182;104-182;104-183;104-182;104-183;104-169;104-223;104-180;104-174;104-269;104-174;104-182;104-182;104-175;104-183;104-183;104-182;104-182;104-166;104-173;104-154;104-174;104-167;104-182;104-161;104-174;104-180;104-182;104-177;104-182;104-226;104-183;104-182;104-171;104-177;104-192;104-255;104-180;104-174;104-182;104-181;104-183;104-182;104-167;104-173;104-173;104-162;104-174;104-171;104-182;104-166;104-182;104-173;104-182;104-182
13491	1-480;1-410;1-470;1-482
13520	1-258;1-256;1-247;1-246;1-271;1-260;1-260;1-260;1-255;1-260
13592	1-113;79-132
13614	1-165;1-151;1-154;1-164
13621	1-468;1-397;1-522;1-419;1-360;1-491
13627	1-266;1-266;1-261;1-261;1-250;1-117;1-266;1-261;1-248;1-266;1-247;1-260;1-266;1-250;1-225;1-261;1-194;1-234;1-214;1-261;1-226;1-261;1-251;1-126;1-261;1-261;1-249;1-231;1-250;1-261;1-223;1-194;1-266;1-231;1-261;1-266;1-251;1-266;1-266;1-266;1-261;1-261;1-218;1-252;1-194;1-235;1-261;1-250
13653	1-475;1-450;1-472;1-471
13675	1-402;2-451;2-479;2-451;2-301;34-87
13690	1-492;1-492;1-368;1-510;1-386;1-496;1-418;1-346;1-248
13712	1-358;11-254;13-158;13-158;13-158;13-158;13-97;13-154
13722	1-452;7-383;7-468;7-468
13731	1-357;1-336;1-370
13735	1-263;1-224
13767	1-415;1-386;1-380;1-355;1-470;1-471;1-358;1-369;1-369;1-543;1-473;1-510;1-390;1-473;1-419;1-474;1-369;1-415;1-470;1-397;1-295;1-491;1-471

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
13774	1-441;1-408;1-521;1-232;1-430;1-415;1-491;1-470;1-545;1-413;1-472;1-397;1-439;1-495;1-232;1-274;1-430;1-555;1-582;1-471
13779	1-487;1-534
13788	1-465;72-546;73-530;76-391;76-391;94-554;94-532;94-503;94-575;100-570;100-588;100-525;100-510;102-605
13809	1-283;1-446;1-471
13835	1-443;1-485;1-449;1-462;1-487;1-445;1-292;1-51
13850	1-485;1-355;1-496;1-544
13859	1-398;1-458;1-466;1-256;1-468;1-458;1-306;1-281;163-667;163-667;163-554;163-597;163-531;163-574;163-554;163-587;163-652;163-590;163-654
13870	1-249;1-268
13879	1-480;1-467
13891	1-574;1-458
13911	1-600;1-544
13922	1-504;234-691
13931	1-463;36-391
13947	1-456;1-194;1-441;1-53;1-341;1-398
13969	1-293;1-485
14022	1-285;1-387;1-387;1-387;1-329;1-387;1-386;1-386;1-280;1-383;1-386;1-310
14065	1-460;1-477
14075	1-408;1-468
14088	1-425;1-466;1-503
14093	1-326;1-326;1-326
14094	1-501;1-514
14104	1-404;2-607;67-310
14134	1-480;2-52;2-51
14143	1-439;1-50;1-51
14180	1-296;1-294;1-301
14224	1-459;1-475;47-186
14232	1-437;48-187
14250	1-485;1-474;1-471;1-443;1-480;1-487;1-502;5-391
14278	1-459;1-480;1-474;1-486;1-522;1-480;2-462;4-504;4-490;4-486
14286	1-157;1-156;1-157;1-156;1-141;1-141;1-154;1-154;1-154;1-154;1-157;1-154;1-157;1-154;1-157;1-157;1-154;1-154;1-157
14295	1-175;43-433;43-256;43-433;43-420;43-159
14304	1-401;1-383;1-453;1-293;1-439;1-396
14312	1-409;1-364
14341	1-262;1-314
14367	1-436;1-164;1-79
14386	1-359;1-372
14427	1-360;7-415
14455	1-373;1-461
14465	1-96;1-93
14475	1-458;1-328;1-450
14508	1-339;1-278;1-342;1-338
14519	1-461;1-461
14529	1-448;1-504
14538	1-425;1-372;1-295
14546	1-495;1-495;1-51;1-492;2-493;2-495;2-478;3-491;3-474;3-432;3-529;3-219;6-269;8-623;20-376;31-544;34-495;39-544;54-572;54-576;54-550;54-562;54-600;54-495;66-562;69-118;71-560;71-491;71-478;71-269;80-601;81-495;81-495;81-594;81-512;81-594;81-562;81-617;81-408;81-619;81-507;81-562;81-432;81-583;81-616;81-573;81-509;81-553;81-605;81-519;81-504;81-607;81-603;81-616;81-363;81-506;81-215;81-515;81-576;81-479;82-561;82-603;83-637;83-562;83-530;83-576;85-619;85-576;85-597;85-622;85-600;85-495;85-576;85-621;85-544;85-466;85-489;85-492;86-334;86-619;86-606;86-569;86-193;86-590;86-584;86-626;87-504;87-544;87-618;87-562;87-576;87-479;87-612;87-604;87-631;97-619;97-544;102-619;118-479;118-643;129-636;130-495
14559	1-471;1-418;1-445
14595	1-180;1-238
14604	1-551;1-562;1-420;1-598
14610	1-335;1-335
14624	1-381;1-472
14630	1-116;1-129;1-126;1-129;1-129;1-129;1-126;1-116;1-129;1-119;1-116;1-126;1-126;1-129;1-129

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
14654	1-137;1-183;1-184;1-183;1-183;1-126;1-183;1-183;1-184;1-183;1-183;1-183;1-128;1-183;1-184;1-171;1-183;1-183;1-137;1-183;1-183;1-161;1-183;1-66;1-183;1-183;1-183;1-183;1-183;1-167;1-151;1-172;1-163;1-183;1-183;1-161;1-183;1-183;1-181;1-183;1-183;1-150;1-183;1-183;1-184;1-183;1-182;1-128;1-182;1-388;1-183;1-183;1-183;1-180;1-178;1-183;1-183;1-173;1-183;1-183;1-183;1-183;1-183;1-183;1-172;1-179;1-163;1-182;1-105;1-137;1-132;1-132;1-183;1-183;1-126;1-169;1-183;1-183;1-183;1-183;1-158;1-61;1-164;1-124;1-172;1-156;1-122;1-183;1-127;1-183;1-183;2-173;2-175;2-183;2-166;2-183;2-183;2-183;2-133;2-166;2-183;2-183;2-182;2-183;2-183;22-207;22-214;22-103
14709	1-440;1-469;1-452;1-237;1-509
14719	1-274;1-271
14730	1-407;1-319;1-197
14746	1-288;1-463;1-376
14817	1-496;153-552;375-551;375-564;375-566;375-563
14852	1-413;1-423;1-404;1-410;1-411;1-415;1-420;1-414;1-422
14933	1-432;3-434
14956	1-501;1-501
14964	1-187;1-187;1-187;1-187;1-187
15005	1-241;1-245;1-245;1-218
15013	1-404;1-463;25-459;29-507;29-423;29-451;29-518;29-120;29-517;29-300;29-318;30-418;30-580;30-458;30-392;30-409;30-521;30-475;30-464;30-520;30-133;30-423;30-521;30-520;30-390;30-500;30-491;30-472;30-481;30-537;30-436;30-539;30-514;30-471;30-504;30-527;31-465;31-504;32-463;32-434;38-518;38-503;38-508;61-533
15032	1-265;49-432
15042	1-283;1-490;1-459;1-481;1-503
15053	1-271;1-456;1-539;1-439;1-548
15077	1-348;1-329;1-349
15088	1-371;1-329;1-371;1-369;1-373
15095	1-351;32-172
15097	1-506;123-452
15098	1-465;1-463;1-520
15101	1-478;32-503;32-311;32-573;32-546;32-531
15102	1-206;53-290
15103	1-362;1-405;1-379;1-405;1-337;6-489;6-428
15104	1-368;1-359;1-348;1-361;1-361;1-360;1-172;1-364;1-172;1-346;1-365;3-363
15105	1-454;12-359;12-366;12-366;12-183;12-183;12-357
15108	1-337;1-334;1-335;1-135
15110	1-360;1-481
15111	1-372;1-356;1-357;1-356;1-358
15113	1-406;1-265
15114	1-486;1-508;1-539;16-368;16-414;16-391;32-172;33-384
15115	1-408;1-408;3-63
15116	1-464;1-539;1-430;1-454;1-558;1-418;1-457;1-492;1-508;1-473;1-448
15118	1-407;15-394
15119	1-409;1-495
15120	1-473;1-478;2-58
15121	1-483;1-57
15122	1-424;1-524;1-57
15123	1-477;1-388;1-478
15124	1-358;1-375
15125	1-61;1-64;1-64;1-61;1-61;1-61;1-64;1-64;1-64;1-61;1-61;1-61;1-63;1-64
15126	1-95;1-100
15129	1-201;1-220;1-159;1-220;1-220;1-219;1-220;1-217;1-235;1-220;1-219;1-226;1-220;1-232;1-220;1-202;1-233;1-235;1-220;1-220;1-212;1-135;1-222;1-220;1-220;1-232;1-220;4-220;4-232;4-220;4-233;4-234;4-220;4-200;4-233;4-231;4-233;4-220;4-220;4-232;4-220;4-234;4-209;4-220;4-201;4-232;4-220;4-232;4-222;4-220;4-222;4-220;4-219;4-215;4-220;5-225;5-233;5-232
15130	1-421;1-417
15131	1-617;56-617;56-528
15132	1-540;1-451
15135	1-438;1-440
15136	1-472;1-397;1-396;1-468;1-402;1-405;1-493
15137	1-320;1-187;1-348;1-159;15-313
15138	1-398;1-399;14-269;14-380
15139	1-225;1-225;1-225;1-225;1-225;1-225;1-224;1-223;1-225;1-223;1-225
15140	1-63;31-535;31-528
15141	1-358;1-362;1-339;1-353;1-358;6-391;6-350;6-439;6-367;6-161;6-372;6-391;6-344;17-411;22-431;22-427;22-392;22-366;22-421;22-427;22-438;22-339;22-432;22-434;22-409;22-364;22-431;22-390;22-407;22-424;22-436;22-434;22-430;27-401
15143	1-479;1-466
15145	1-456;1-301
15146	1-266;1-462;1-462

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15147	1-56;1-353
15148	1-372;1-413;1-486
15149	1-417;1-408;1-437;1-310
15150	1-324;1-468;1-570;1-298
15151	1-464;1-445
15153	1-342;1-344
15154	1-481;1-484;1-480
15155	1-530;388-795;390-896;501-733
15157	1-62;1-67;1-79
15158	1-301;1-315
15159	1-495;1-412
15160	1-455;2-495
15162	1-293;1-355;1-420
15164	1-533;1-449;1-322;1-342;1-342;1-514;1-477;2-86
15165	1-246;1-233;1-253;1-247;1-254
15166	1-406;1-414;1-474;1-484;1-407;1-475
15168	1-285;1-294
15170	1-477;1-437;1-468;1-150;1-462;1-370;1-467;1-277;1-472;1-478
15171	1-416;1-87
15173	1-468;6-475
15174	1-508;1-397;1-497;1-466;1-458;1-466
15175	1-146;1-480;1-373;1-483;1-487
15177	1-455;1-478
15178	1-312;1-278
15179	1-473;1-425
15180	1-463;6-73
15181	1-501;11-376;101-591
15182	1-248;2-232;2-240;2-246;2-250;2-235;2-241;2-241;2-248;2-248;2-248;2-248;2-232;2-248
15183	1-377;1-232
15184	1-439;1-454;1-448;1-452
15185	1-298;1-376;1-311;1-292
15186	1-257;1-436;1-436
15187	1-251;1-382
15188	1-494;1-361;1-361
15189	1-521;1-426
15190	1-503;1-431
15191	1-358;1-433
15192	1-494;1-482;1-567
15193	1-215;1-112
15194	1-264;1-264;1-264
15195	1-408;1-451
15196	1-351;1-362;1-297;1-355;1-343;1-366;2-355;2-355;2-245;2-354;2-356;2-355;2-95;2-362;2-357;2-368;2-367;2-355;2-362;2-342;2-352;2-123;2-295;2-62;2-363;2-354;2-355;2-355;2-355;2-362;2-355;2-360;2-366;2-355;2-356;2-57
15197	1-280;1-248;1-93;1-302;1-61;1-287;1-281;1-56
15198	1-459;1-341;1-347;1-297;2-95;2-245;2-341;2-347;2-123;2-295;2-62;2-57
15199	1-94;1-431;1-122;1-61;1-56
15200	1-442;5-444;5-392;5-366;7-454;8-365;8-444;8-437;8-452;8-418;8-413;8-449;8-452;8-451;9-458;9-430;9-421;9-373;9-404;9-250;9-440;9-450;9-440;9-433;9-374;9-433;9-436;9-364;9-445;9-439;9-421;9-435;9-455;9-439;9-437;9-458;9-448;9-447;9-458;9-453;9-442;9-430;9-436;9-442;9-415;9-440;9-459;9-444;9-432;9-430;9-410;9-440;9-309;9-338;9-417;9-430;9-441;9-419;9-101;9-444;9-439;9-456;9-453;9-435;9-407;9-412;9-439;9-360;9-452;9-399;9-424;9-254;9-422;9-460;9-441;9-440;9-442;9-453;9-453;9-456;9-457;9-454;9-435;9-421;9-351;9-433;9-457;9-434;9-409;9-440;9-364;9-385;9-437;9-417;9-441;9-385;9-434;9-406;9-452;9-433;9-452;9-452;9-351;9-435;9-364;9-421;9-321;9-451;9-438;9-436;9-452;9-437;9-383;9-437;9-437;9-437;9-430;9-129;9-449;9-442;9-418;9-453;9-455;9-433;9-446;9-417;9-430;9-287;9-453;9-68;9-441;9-316;9-292;9-449;9-421;9-437;9-440;9-403;9-443;9-437;9-450;9-430;9-439;9-442;9-420;9-358;9-443;9-430;9-446;9-442;9-319;9-440;9-421;9-453;9-399;9-456;9-440;9-429;9-291;9-431;9-451;9-439;9-424;9-391;9-435;9-442;9-416;9-442;9-453;9-385;9-293
15201	1-375;4-355;5-423;5-216;5-350;5-453;5-356;5-443;5-464;5-438;5-299;6-449;6-464;6-462

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15202	5-392;5-366;5-437;8-365;8-437;8-418;8-413;9-442;9-430;9-250;9-430;9-421;9-404;9-433;9-437;9-439;9-436;9-373;9-374;9-437;9-364;9-442;9-421;9-432;9-437;9-360;9-436;9-471;9-439;9-421;9-435;9-440;9-415;9-479;9-435;9-433;9-437;9-437;9-430;9-410;9-309;9-338;9-439;9-430;9-417;9-101;9-419;9-439;9-254;9-407;9-412;9-439;9-439;9-399;9-424;9-437;9-422;9-437;9-437;9-437;9-433;9-435;9-434;9-471;9-351;9-442;9-409;9-414;9-365;9-385;9-364;9-441;9-417;9-385;9-436;9-406;9-434;9-433;9-351;9-435;9-364;9-321;9-421;9-436;9-438;9-437;9-383;9-437;9-437;9-437;9-430;9-129;9-444;9-439;9-418;9-433;9-442;9-417;9-430;9-287;9-68;9-316;9-437;9-292;9-439;9-421;9-439;9-403;9-442;9-437;9-430;9-429;9-442;9-358;9-420;9-439;9-430;9-496;9-319;9-439;9-440;9-421;9-399;9-442;9-439;9-291;9-431;9-385;9-424;9-391;9-435;9-437;9-416;9-437;9-293;9-372;9-437;9-423;9-429;9-442;9-63;10-242;13-477
15211	1-474;1-332;26-98
15212	1-509;1-454
15213	1-461;1-487;1-490
15214	1-472;1-471
15215	1-454;1-461
15216	1-406;1-318
15217	1-423;1-469
15218	1-447;1-460
15219	1-469;1-368;1-510;1-491;1-423;1-405;1-466;1-519
15220	1-378;9-456;9-507;9-506;9-326;9-487;9-544;9-507;9-442;9-469;9-539;9-71
15222	1-378;1-478;1-539;1-434;1-556
15223	1-395;1-456;1-423;1-495;1-544
15224	1-494;1-332
15225	1-484;1-413
15226	1-86;1-86;1-86;1-86;1-86;1-86
15227	1-335;1-92;1-410;23-417
15228	1-523;1-458
15229	1-487;1-505;1-453;1-413;1-507;1-472;1-498;1-511;1-311;1-416
15231	1-334;1-507;1-92;1-409;1-504;13-444;13-468;13-415;13-421;23-517;23-517
15232	1-297;1-300
15235	1-297;1-338
15236	1-292;1-306;1-306;1-311;1-298;1-311
15237	1-430;21-416;23-419;23-514;24-408;33-460
15238	1-430;21-415;23-418;23-435;23-442;24-407
15239	1-394;1-347
15240	1-464;1-475;1-137
15241	1-415;1-434;1-417;1-419;1-435
15242	1-394;1-272
15243	1-117;1-276;1-193;1-205;1-163;1-238
15244	1-256;1-256;1-256;1-256;1-256;1-256;1-256;1-256;53-560;56-390;56-544;56-396;56-581;56-538;56-494;56-527;56-406;81-347;81-356;82-256;82-561;82-534;82-534;82-256;82-542;82-167;82-506;82-578;82-261;82-462;82-254;82-256;82-534;82-256;83-449;84-415;84-601;84-534;84-534;84-593;87-530;112-579
15245	1-374;1-501;1-506
15247	1-468;1-309
15248	1-256;1-263;1-345
15250	1-108;1-109
15251	1-406;111-576
15253	1-185;1-185;1-185
15254	1-434;1-410
15256	1-501;1-458;1-396
15257	1-489;1-151;1-412;1-493
15258	1-454;1-207
15259	1-466;1-341
15260	1-199;1-173
15261	1-392;3-390;3-380;3-402;3-399;3-402;3-380
15262	1-440;1-448
15264	1-377;1-381
15265	1-453;1-530
15266	1-437;1-420
15267	1-438;1-162;1-488;1-110
15273	1-512;1-434
15279	1-389;1-533
15280	1-459;1-455
15281	1-274;1-405;1-416;1-460;1-438;1-89;1-389;1-287;1-364
15282	1-274;1-405;1-416;1-480;1-483;1-438;1-89;1-389;1-506;1-287;1-485;1-364
15283	1-385;145-641
15284	1-295;1-279
15285	1-441;1-428;1-445
15288	1-243;42-503;83-487
15289	1-377;1-256
15290	1-505;1-506;1-464;1-533
15291	1-100;1-404
15292	1-230;1-223

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15293	1-389;1-534
15294	1-140;1-140;2-142;2-140;2-142;2-132;2-142;2-140;2-142;2-140;2-142;2-142;2-142;2-140;2-142;2-142;2-140;2-140;2-142;2-142;2-142;2-140;2-140;2-142;2-140;2-142;2-142;2-140;2-142;2-140;2-142;2-140;2-140;2-140;2-142;2-140;2-142;2-142;2-142;2-142;2-142;2-142;2-132;2-140;2-142;2-142;2-142;2-142;2-142;2-140;2-142;2-140;2-140;2-142;2-142;2-140;2-140;2-140;2-140;2-142;2-140;2-140;2-142;2-140;2-142;2-142;2-140;2-142;2-140;2-140;2-140;2-140;2-140;2-140;2-140;2-142;2-140;2-142;2-142;2-140;2-142;2-140;2-142;2-140;2-142;2-142;2-142;2-142;2-140;2-142;2-132;2-142;2-142;2-142;2-142;2-140;2-142;2-142;2-140;2-142;2-142;2-140;2-142;2-140;2-142;2-142;2-140;2-142;2-142;2-142;2-140;2-89;2-142;2-132;2-142;2-142;2-140;2-142;2-140;2-142;2-142;2-142;2-142;2-140;2-140;2-142;2-140;2-140;2-140;2-140;2-140;2-142;2-142;2-140;2-142;2-142;2-140;2-140;2-142;2-142;2-142;2-140;2-142;2-140;2-140;2-140;2-140;2-142;2-140;2-142;2-140;2-140;2-142;2-142;2-140;2-140;2-142;2-140;2-142;2-142;2-142;2-140;2-140;2-140;2-142;2-142;2-142;2-140;2-142;2-142;2-142
15296	1-412;1-100
15297	1-350;1-425;1-459;1-531;13-521;13-411;13-523;28-504;28-510;28-548;28-518;31-496;31-519;31-510;31-540;31-485;31-544;31-433;31-510;31-505;31-527;31-529;31-467;31-510;31-544;31-528;31-275;31-531;31-564;31-531;31-247;31-527;31-510;31-543
15299	1-372;1-491;1-446
15300	1-416;1-387
15301	1-377;1-382;1-379;1-384;1-398;1-390;1-410;1-351;1-316;1-402;1-409;1-401;1-412;1-409;1-379;1-398;1-379;1-379;1-379;1-383;1-380;1-142;1-369;1-398;1-379;1-391
15303	1-494;1-367;1-480;1-304;1-541;93-784;93-459
15304	1-488;1-473
15305	1-276;1-445
15308	1-462;1-490;1-481
15309	1-494;1-367;1-480;1-304;1-542;93-606;93-459
15310	1-478;1-483;25-511
15311	1-464;1-497;1-436;1-474;1-496;1-220
15312	1-116;1-121;1-136;1-159;1-129;1-150;1-152;1-117;1-135;1-157;1-142;1-131;1-155;1-153;1-150;1-159;1-147;1-141
15315	1-489;1-483
15324	1-449;1-450;1-410
15325	1-432;46-416;46-98;50-573
15326	1-381;1-378
15327	1-432;1-468;1-490;1-379;1-475;1-432;1-308;1-464
15328	1-286;8-504
15330	1-398;7-434;7-385;7-408;7-545;7-489;7-502;7-517;7-276;7-490
15331	1-167;1-167
15334	1-353;1-457
15336	1-349;1-361;1-325
15338	1-488;1-429
15339	1-200;1-198;1-200;1-200;1-198;1-198;1-198;1-198;1-198;1-198;1-200;1-198;1-200;1-200;1-200;1-200
15340	1-522;1-511
15341	1-191;1-180;1-180;1-114;1-196;1-196;1-193;1-196;1-196;1-197;1-183;1-114;1-196;1-196;1-183;1-190;1-196;1-196;1-197;1-196;1-183;1-176;1-114;1-161;1-114;1-180;1-195;1-183;1-196;1-197;1-196;1-177;1-191;1-182;1-184;1-196;1-114;1-114;1-180;1-194;1-174;1-197;1-172;1-196;1-196
15344	1-357;1-319;1-428;1-295;1-263;1-378;1-254;1-256
15345	1-333;1-462;1-463;1-464;1-482;1-465;1-469;1-460;1-466;1-467;1-424;1-471
15346	1-499;3-439
15347	1-427;1-447;1-436;1-387
15348	1-101;1-395;1-98;1-395;1-301;1-389;1-392;1-395;1-392;1-389;3-395
15349	1-263;1-92
15354	1-485;1-444
15356	1-402;1-105;1-388;1-402;1-400;1-402;1-208;1-400;1-312;1-399;1-303;1-402;1-402;2-158;3-500;3-484;3-481
15363	1-418;1-130;1-417;1-433;1-423;1-402
15368	1-275;1-416;1-442
15369	1-549;1-282;1-429;1-468;1-484;1-399;1-476;1-431
15371	1-501;1-476
15372	1-446;1-460;1-320;1-489;1-495
15373	1-506;1-485
15374	1-408;1-396;1-415;1-420
15375	1-497;1-526
15376	1-496;1-448
15377	1-451;89-176;89-569

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15378	1-189;21-126;22-108;22-108;50-187;50-106;51-109;52-106
15379	1-125;1-125;1-125;1-125;1-125;1-125;1-125
15380	1-506;1-437
15381	1-487;1-425;1-465
15383	1-491;1-428
15384	1-79;1-201
15385	1-79;1-465
15386	1-106;1-172;1-51;1-87;34-99
15390	1-398;1-391;1-404;1-417;1-137
15391	1-213;11-442;11-419
15392	1-122;1-122;1-122;1-93;1-128
15394	1-410;1-409;1-441;1-397;1-426;1-444
15397	1-490;1-283
15398	1-368;1-431
15399	1-486;1-411;1-447
15400	1-458;111-575
15401	1-472;1-490
15402	1-336;1-483
15403	1-466;1-486;1-411;1-412;1-435
15404	1-107;10-115;15-275;29-129;29-115;29-128;29-80;29-136;29-118;29-93;30-104;30-109;30-129
15405	1-108;8-175;8-238;8-256;8-294;8-279;10-208;10-361;10-116;11-286;13-311;14-297;29-221;30-135;30-195;30-116;30-253;30-279;30-255;30-242;30-235;30-167;30-188;30-81;30-223;30-94;30-139;30-249;30-202;30-292;30-260;30-237;30-214;30-119;30-234;30-281;31-110;31-291;31-272;31-105;31-268;31-278;31-227;31-296;31-134;31-226;60-141;60-308;64-179;64-273
15406	1-106;10-114;28-133;28-114;28-127;28-79;28-134;28-117;28-92;29-148;29-103;29-108;29-132;58-134
15407	1-295;1-279
15408	1-430;83-440
15413	1-86;1-144;1-112;1-109
15415	1-362;1-360;1-140;1-345
15416	1-220;1-207;1-220;1-220;1-221;1-220
15417	1-426;1-471
15418	1-444;1-121;1-472;1-449;1-451;1-416
15419	1-528;3-436;6-540;6-372;6-321;6-387;6-504;6-475;6-389;6-445;6-540;6-539;6-540;6-445;6-445;6-431;6-540;6-372;6-540;6-540;6-445;6-540;6-539;6-506;6-179;6-321;6-179;6-380;6-536;6-444;6-279;6-392;6-539;6-372;6-459;6-437;6-308;6-394;6-423;6-445;6-540;6-593;6-457;6-127;6-349;6-540;6-524;6-388;6-462;6-371;6-165;6-91;6-540;6-154;6-415;6-189;6-459;6-493;6-540;6-389;6-382;6-372;6-474;6-493;6-540;6-179;6-525;6-540;6-258;6-504;6-544;6-189;6-462;8-129;10-372;14-436
15420	1-391;1-390;1-391
15421	1-515;1-293
15422	1-395;1-416
15423	1-479;1-412;1-426
15424	1-462;1-258;1-417;1-120;1-461
15425	1-414;1-451;1-466;1-476;1-490;1-480;1-465
15426	1-467;394-801;394-800
15428	1-495;1-439;1-491
15429	1-285;1-291;1-279
15430	1-508;1-456;1-437
15431	1-361;1-166
15432	1-145;1-125;1-314
15433	1-488;1-457;12-117;12-79
15435	1-402;1-410
15442	1-202;1-273;1-275;1-384
15443	1-98;1-85;1-200;1-84;1-200;1-109;1-66;1-172;1-200;1-97
15444	1-463;1-498;1-312;1-316
15445	1-477;1-524;1-394;3-568;3-482;3-394
15447	1-148;1-144;1-148;1-135;1-148;1-144;1-148;1-144;1-148;1-148;1-144;1-144;1-144;1-144;1-144;1-144
15448	1-504;6-186
15449	1-402;1-401
15450	1-446;1-326;1-449;1-519;1-450;1-454;1-459;1-426;1-491;1-476
15451	1-511;1-338
15452	1-377;1-129;1-181

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15453	1-103;1-109;1-109;1-109;1-113;1-113;1-113;1-113;1-113;1-109;1-113;1-109;1-113;1-113;1-113;1-113;1-113;1-109;1-113;1-113;1-113;1-109;1-113;1-109;1-113;1-109;1-76;1-109;1-113;1-113;1-109;1-113;1-113;1-113;1-103;1-109;1-113;1-113;1-113;1-113;1-109;1-109;1-109;1-109;1-113;1-109;1-113;1-109;1-109;1-109;1-109;1-109;1-109;1-109;1-113;1-113;1-113;1-113;1-113;1-113;1-113;1-103;1-113;1-113;1-113;1-109;1-109;1-113;1-113;1-109;1-113;1-113;1-109;1-113;1-109;1-113;1-114;1-109;1-113;1-113;1-113;1-113;1-113;1-113;1-113;1-109;1-113;1-103;1-113;1-113;1-103;1-113;1-109;1-109;1-113;1-113;1-113;4-109;4-109
15454	1-311;48-411
15455	1-517;125-540
15457	1-417;1-457
15459	1-355;63-492;63-484;63-429
15460	1-407;1-410;43-404
15462	1-468;1-466
15463	1-375;1-415;1-569;1-552;1-391
15464	1-410;1-405
15466	2-371;2-370;2-371;38-88;38-95
15471	1-376;1-376
15473	1-447;1-461;1-452
15474	1-459;1-432;1-466
15475	1-447;1-289
15476	1-306;1-461;1-457;1-411;1-478;1-373;2-294;2-477;2-379;2-422;2-398
15477	1-403;1-394;1-366
15478	1-453;1-345
15479	1-408;1-478
15480	1-188;1-297
15481	1-340;3-267
15482	1-111;1-460;1-305;1-476
15483	1-455;1-506;1-479
15484	1-459;1-500
15485	1-468;1-470;1-464;1-465
15486	1-488;1-298;1-512
15487	1-307;1-444
15488	1-353;1-343;1-354;1-354;1-355
15489	1-350;1-352

Seq Id No.	Positions of biological 5'ESTs
15490	1-454;1-497;4-466;4-494;4-476;4-442;4-425;4-458;4-486;4-536;25-492;28-536;32-524;32-443;32-533;32-542;32-505;43-505;46-508;46-489;46-496;46-522;46-300;46-536;52-515;52-535;52-533;52-607;52-443;52-512;53-129;53-129;53-129;53-129;53-129;53-129;53-130;53-129;53-130;53-129;53-129;53-129;53-129;53-130;53-129;53-129;53-129;53-129;53-129;53-130;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-130;53-130;53-129;53-130;53-130;53-129;53-129;53-130;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-129;53-130;53-129;53-129;53-130;53-129;53-130;53-130;53-129;53-130;53-129;53-129;53-129;53-130;53-129;53-129;53-12
15491	50-547;50-533;50-531;50-530;50-524;50-525;50-549;57-547;57-553;57-547;57-524;57-553;57-545
15492	1-464;1-248;1-464;1-465;1-454
15493	1-497;1-478
15494	1-471;1-445;1-488;1-476;1-464;1-382;1-483;1-484
15498	1-457;1-489
15499	1-477;1-461
15500	1-422;1-436
15501	1-331;1-432
15502	1-367;1-354
15503	1-372;4-516;7-453
15512	1-416;1-416;1-416;1-414;1-416;1-416;1-416;1-416;1-414;1-416;1-416;1-416;1-414;1-370;1-416;1-76;1-414;1-414;1-416;1-414;1-416;1-416;1-414;1-414;1-376;1-416;1-416;1-400
15513	1-444;4-114;6-74;8-136;24-159
15515	1-454;1-450;1-465;1-371;1-479
15516	1-343;1-240
15517	1-176;1-180;1-176;1-155
15518	1-198;1-165;1-198;1-185;1-185
15519	1-93;1-300;1-457;1-423

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15520	17-442;17-408;17-451;17-447;17-374;17-444;17-445;17-446;17-459;17-462;17-432;17-449;17-368;17-460;17-460;17-447;17-446;17-444;17-442;17-439;17-459;17-448;17-435;17-143;17-422;17-461;17-443;17-434;17-451;17-451;17-395;17-447;17-422;17-277;17-396;17-450;17-442;17-418;17-422;17-405;17-448;17-354;17-439;17-456;17-447;17-440;17-443;17-407;17-427;17-447;17-460;17-416;17-352;17-439;17-442;17-422;17-344;17-427;17-451;17-441;17-374;17-361;17-442;17-199;17-375;17-449;17-366;17-447;17-454;17-420;17-450;17-422;17-447;17-362;17-325;17-447;17-462;17-378;17-426;17-442;17-429;17-420;17-459;17-430;17-213;17-427;17-427;17-438;17-445;17-442;17-454;17-444;17-439;17-447;17-451;17-136;17-446;17-427;17-402;17-452;17-448;20-460;22-460;22-238;22-114;22-441;22-460;23-407;26-431;40-441;40-454;40-438;40-457;40-442;43-443;43-461;43-455;43-447;43-455;43-460;43-443;43-269;43-441;43-439;43-251;43-459;43-427;43-438;43-459;43-447;43-447;43-451;43-427;43-460;43-453;43-381;43-459;46-460;46-460;46-452;46-457;46-449;46-441;46-441;46-421;49-432;51
15523	1-432;1-432;1-495;1-483;1-412;1-437;1-497;1-458;1-453;1-493;1-481
15524	1-428;7-510;7-269
15525	1-542;32-459;38-300
15529	1-445;1-447
15531	1-290;1-288;1-104
15532	1-399;1-467;1-478;1-507;1-358;1-471;1-477
15534	1-463;1-446
15536	1-585;1-279
15537	1-432;1-92;1-515
15539	1-399;1-424
15540	1-499;1-489
15541	1-72;11-71
15542	1-182;1-182;1-184;1-182;1-185;1-185;1-182;1-182;1-182;1-172;1-182;1-185;1-182;1-172;1-184;1-182;1-182;1-184;1-162;1-182;1-169;1-182;1-188;1-182;1-182;1-170;1-188;1-182;1-182;1-182;1-182;1-172;1-168;1-182;1-182;1-185;1-188;1-188;1-182;1-182;1-177;1-182;1-182;1-162;1-185;1-182;1-182;1-183;1-182;1-182;1-182;1-182;1-182;1-182;1-188;1-185;1-183;1-171;1-188;1-150;1-182;1-182;1-182;1-169;1-172;1-182;1-182;1-182;1-188;1-188;1-183;1-182;1-185;1-182;1-182;1-185;1-159;1-183;1-182;1-185;1-188;1-182;1-182;1-182;1-182;1-183;1-185;1-188;1-185;1-72;1-183;1-183;1-182;1-182;1-182;1-147;1-182;1-145;1-182;1-182;1-182;1-182;1-172;1-182;1-182;1-182;1-182;1-182;1-183;1-182;1-188;1-182;1-182;1-150;1-183;1-188;1-182;1-80;1-188;1-185;1-182;1-182;1-183;1-183;1-172;1-174;1-182;1-163;1-171;1-182;1-182;1-182;1-183;1-128;1-188;1-182;1-183;1-182;1-171;1-182;1-182;1-183;1-182;1-183;1-183;1-182;1-181;1-162;1-182;1-182;1-183;1-172;1-177;1-188;1-151;1-171;1-183;1-183;1-185;1-182;1-182;1-182;1-182;1-184;1-182;1-182;1-182;1-182;1-182;1-182;1-182;
15544	1-476;1-485;1-496;1-460;1-499;1-496
15545	1-442;1-476
15546	1-338;1-358
15547	1-501;1-183
15548	1-232;1-370;1-456;1-487;1-487;1-454;1-490
15550	1-477;1-508;1-472;1-477;1-372
15552	1-350;1-414;1-456;1-128
15553	1-158;1-157;1-157;1-162;1-157;1-157;1-157;1-157;1-161;1-161;1-161;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-158;1-162;1-157;1-157;1-157;1-161;1-161;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-157;1-94
15554	1-226;1-241;1-242
15555	1-404;1-359;1-399;1-406;2-396
15556	1-226;1-387;1-418;1-372
15557	1-499;1-508;1-119;1-509;1-477;1-447;1-508;1-345;1-525;1-491;1-525;1-441;1-494;1-583;1-84;1-476;1-485;1-494;1-507;1-503;1-503;1-115;1-524;1-483;1-299;1-432

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15558	1-83;1-254;1-103;1-254;1-254;1-101;1-104;1-254;1-252;1-254;1-103;1-254;1-254;1-254;1-254;1-252;1-166;1-255;1-103;1-254;1-254;1-254;1-254;1-254;2-276
15560	1-501;1-205;1-427;1-467
15561	1-188;1-420
15562	1-310;1-291;1-281;1-387;1-287;1-300;1-279;1-284;1-249;1-80;1-357;1-313
15563	1-467;1-476
15564	1-294;1-399;1-408;1-403;1-404;1-408;1-398;1-399;1-391;1-395;1-385;1-402;1-298
15565	1-406;1-121
15566	1-92;1-96;1-92;1-79;1-79;1-88;1-94
15567	1-460;1-428;1-460;1-451;1-476;1-424;1-444
15568	1-205;1-205;7-216;7-216;7-216;7-216;7-200;7-210;7-205;7-206;7-205;7-205;7-206;7-205;7-192;7-205;7-210;7-216;7-95;7-205;7-106;7-216;7-205;11-207;11-205;11-205;11-216;15-153;15-117;15-205;15-204;15-162;15-206;15-204;15-206;15-167;15-204;15-176;22-217;44-191;54-171;54-195
15569	1-407;3-395
15570	1-455;1-524;1-350
15571	1-420;1-396
15572	1-541;1-577
15573	1-440;4-438;7-424;8-441;8-437;8-415;8-437;8-327;8-349;8-437;8-411;8-434;8-423;8-437;8-443;8-434;8-390;8-437;11-439;11-434;11-441;11-441;11-441;11-441;11-438;11-369;11-390;11-430;11-534;11-400;11-441;11-441;11-441;11-459;11-438;11-435;11-320;11-339;11-440;11-490;11-441;11-422;11-363;11-415;11-417;11-437;11-417;11-436;11-441;11-208;11-356;11-438;11-272;11-370;11-437;11-441;11-391;11-441;11-131;11-413;11-441;11-441;11-441;11-373;11-441;11-437;11-421;11-441;11-422;11-422;11-441;11-397;11-422;11-437;11-433;11-441;11-425;11-417;11-347;11-434;11-422;11-417;11-361;11-194;12-434;12-417;12-369;12-437;12-357;12-437;12-403;12-402;12-427;12-437;12-437;12-437;12-439;12-138;12-429;17-109;17-233;17-436;18-402;21-426;35-433;35-436;35-437;38-422;38-264;38-438;38-441;38-441;38-492;38-438;38-436;38-422;38-434;38-441;38-376;38-433;38-441;38-246;41-509;41-416;41-436;41-436;44-427;46-423;46-442;46-439;46-437;46-437;46-438;46-358;46-439;46-437;46-442;46-422;47-97;47-401;47-173;47-134;47-147;47-104;47-441;48-133;52-365;52-435;52-436;
15574	1-484;1-415;1-474
15575	1-433;1-427
15576	1-465;1-333
15577	1-504;1-453;1-444;1-470
15578	1-821;1-358;1-358;1-440
15580	1-488;1-433
15581	1-172;35-389
15582	1-389;1-388
15583	1-519;1-486
15584	1-331;1-153
15586	1-371;1-498;1-486;1-448;1-471;1-489;1-488;1-521;1-561;1-443;1-275;1-475;1-488
15588	1-311;1-289;1-297;1-270;1-294;1-309;1-297;1-298;1-308;1-290;1-302;1-296;1-293;1-309;1-128;1-309;1-309;1-296;1-309;1-311;5-311
15590	1-513;1-462
15591	1-417;1-569;1-360
15592	1-358;1-368;1-359
15593	1-346;1-393;5-99

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15594	1-469;1-329;1-484;1-453;1-493;1-484;1-485;1-430;1-400;1-429;1-442;1-469;1-397;1-388;1-446;1-454;1-360;1-370;1-313;1-397;1-429;1-361;1-370;1-453;1-246;1-429;1-465;1-446;1-442
15595	1-436;1-291
15596	1-385;1-286;1-443;1-419;2-408
15597	1-502;1-504
15598	1-388;11-410
15600	1-446;1-402;1-442;1-374;1-438
15603	1-493;1-491;1-449;1-368;1-490;1-473;1-544;1-500;1-476;1-325;1-498;1-453;1-510;1-506
15604	1-473;1-470;1-489
15605	1-419;1-409;1-414;1-422;1-413;1-421;1-390;1-419;1-405;1-404;1-409;1-412;1-412;1-422
15606	1-470;1-487;1-462
15607	1-375;1-406
15608	1-365;1-500
15609	1-383;1-359
15610	1-473;1-463;65-600;65-530;65-454
15612	1-481;1-425
15613	1-220;1-220;1-220;1-216;1-220;1-216;1-216;1-216;1-216;1-216;1-220;1-220;1-220;1-220;1-216;1-220;1-220;1-220;1-220;1-220;1-216;1-220;1-220;1-216;1-216;1-216;1-216;1-216;1-216;1-216;1-220;1-220;1-220;1-220;1-216;1-220;1-220;1-220;1-220;1-216
15614	1-342;5-61;5-202;18-138;18-202;19-145;24-116;54-154;54-382;54-141;54-485;54-111;54-350;54-228;54-227;54-104;54-382;54-463;54-181;55-140
15615	1-77;1-409;2-450
15617	1-371;1-372
15618	1-456;1-456
15619	1-516;1-448;1-597
15621	1-376;1-462
15622	1-566;1-565
15623	1-453;6-447;15-494;15-459;15-423;17-504
15627	1-576;1-361;1-501
15628	1-443;1-476
15629	1-381;1-380;1-304
15630	1-520;2-497
15631	1-455;1-476;1-503;1-87;1-488;1-457
15632	1-50;1-63
15633	1-368;1-396;1-396
15634	1-403;1-393
15635	1-349;1-507

Seq Id No.	Positions of biological 5'ESTs
15636	1-507;1-446;1-508
15637	1-304;1-372
15638	1-444;1-462
15639	1-490;1-497;1-489;1-492;2-486;8-497
15640	1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-224;1-150;1-224;1-220;1-224;1-220;1-220;1-224
15641	1-510;1-456
15642	1-280;1-324
15643	1-366;1-404;1-406;1-381;1-57;1-400;1-405;1-418;1-373;1-374;1-69;1-400;1-406;1-417;1-378;1-133
15646	1-298;1-316
15647	1-525;1-475
15649	1-466;1-404
15650	1-463;76-526
15651	1-402;1-368;1-387;1-232;1-415;1-229;1-409;1-402;1-408;1-414;1-422;1-318;1-399;1-204;1-405;1-229;1-295;1-387;1-413;1-312;1-400;1-421;1-400;1-409;1-94;1-409;1-287;1-280;1-392;1-398;1-326;1-378;1-391;39-425
15657	1-419;12-435;12-459;12-396;12-382;12-458;12-447;12-381;12-460;12-431;12-433;12-467;12-460;12-445;12-368
15658	1-58;1-248;2-199;3-254;9-332;9-396;12-354;15-397;15-352;15-396;15-213;15-135;15-277;15-344;15-199;15-325;16-142;21-113;21-238;42-269;42-379;42-251;51-108;51-101;51-138;51-178;51-151;52-137;58-315;79-292
15659	1-498;196-694;196-665;196-662;196-681;196-651;196-601;196-633;196-697;196-695;196-634;196-695;196-694;196-662;196-658;196-694;196-661;196-672;196-682;196-690;196-681;196-549;196-667;196-694;196-661;196-648;196-646;196-568;196-692;196-380;196-627;198-491
15661	1-308;1-302
15662	1-207;1-100;1-206;1-207
15663	1-100;1-206;1-207;1-207
15665	1-482;9-160
15666	1-491;7-296

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15670	1-220;1-99;1-463
15673	1-560;1-181
15674	1-493;1-458;1-437
15675	1-494;1-505;1-408
15676	1-227;1-144;1-295;1-435;13-537;15-366
15677	1-157;1-163;1-87;1-144;1-152;2-65
15678	1-183;1-184;1-178;1-165;1-175;1-152;1-164;1-402;1-183;1-144;1-181;1-160;1-184;1-182;1-182;1-87;1-184;1-184;1-179;1-196;2-65;2-167;2-183;3-185
15679	1-399;1-461;1-365;1-470
15680	1-532;1-451
15681	1-446;1-471
15682	1-117;1-106;1-122;1-121
15683	1-466;1-489
15684	1-475;1-446
15685	1-532;1-436;1-532;1-517;1-513;1-351;1-532;1-453;1-493;1-405;1-450;1-516;1-492;1-513;1-428;1-466;1-450;1-410;1-516;1-334;1-382;1-469;1-241
15687	1-422;3-428;10-400
15688	1-148;1-418;1-438
15690	1-438;34-368;34-389
15691	1-497;1-479;1-464;1-480
15693	1-499;1-451;1-587
15694	1-201;1-120;1-201
15697	1-457;1-466
15698	1-276;1-276;1-276;1-284
15702	1-502;1-482
15703	1-482;1-477
15704	1-432;1-391;1-101;1-423;1-162;1-470;1-503
15705	1-379;1-439;13-503;13-498;13-451;13-445;13-481;13-490;13-481;13-173
15709	1-283;1-272
15710	1-328;1-278;1-72;1-80

Seq Id No.	Positions of biological 5'ESTs
15711	1-440;4-438;7-424;8-454;8-445;8-327;8-349;8-437;8-454;8-434;8-447;8-441;8-434;8-411;8-437;8-415;8-442;8-457;8-437;8-390;8-423;8-437;11-442;11-441;11-455;11-430;11-439;11-369;11-434;11-443;11-446;11-390;11-439;11-444;11-457;11-454;11-441;11-440;11-363;11-445;11-347;11-400;11-443;11-361;11-422;11-417;11-438;11-435;11-456;11-131;11-438;11-442;11-422;11-442;11-446;11-391;11-373;11-413;11-442;11-437;11-397;11-417;11-437;11-415;11-446;11-436;11-442;11-356;11-449;11-272;11-370;11-444;11-441;11-421;11-208;11-454;11-422;11-417;11-445;11-447;11-194;11-425;11-446;11-339;11-422;11-443;11-434;11-442;11-449;11-422;11-320;11-440;11-433;11-417;12-369;12-439;12-455;12-427;12-429;12-437;12-434;12-446;12-138;12-442;12-455;12-403;12-442;12-442;12-402;12-357;12-451;12-454;12-437;12-417;15-455;17-233;17-455;17-109;17-436;17-455;18-402;21-426;35-437;35-449;35-452;35-436;35-433;38-246;38-456;38-438;38-264;38-422;38-450;38-454;38-422;38-442;38-448;38-454;38-442;38-376;38-436;38-442;38-454;38-455;38-438;38-455;38-450;38-433;38-434;38-
15712	1-420;1-338;1-412;1-497
15714	1-425;1-489;1-472
15715	1-423;3-456;4-316;4-357;4-309
15717	1-409;22-149;22-123
15718	1-496;1-441;1-551
15719	1-493;1-471
15721	1-364;1-126;1-420;1-383;1-324;1-389;1-405;1-375;1-404
15722	1-78;27-410;27-193;29-98
15726	1-336;1-304;1-340
15727	1-448;1-288
15728	1-133;1-184
15730	1-361;8-276;8-338;8-339;11-408
15731	1-352;1-409;1-423;1-357
15733	1-102;1-396
15734	1-476;1-457
15735	21-222;25-397
15736	1-361;1-404;1-505
15738	1-245;6-494;6-457
15739	1-423;1-414
15740	1-242;28-253
15742	1-323;1-323
15743	1-338;1-370;1-345;1-349

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
15745	1-100;1-274;8-503
15746	1-459;1-338;1-427;1-429;1-450;1-113;1-427;1-395;1-399;1-380;1-453
15747	1-96;1-78;1-80;1-96;1-96;1-96;1-96;1-97;1-96;1-97;1-95;1-96;1-97;1-96;1-96;1-97;1-84;1-97;1-96;1-97;1-72;1-97;1-96;1-96;1-80;1-96;1-84;1-96;1-96;1-97;1-96;1-96;1-97;1-97;1-80;1-96;1-97;1-96;1-95;2-113;2-129;2-128;2-129;2-129;2-129;2-125;2-126;2-129;2-134;2-129;2-129;2-129;2-115;2-129;2-129;2-113;2-129;2-71;2-129;2-129;2-116;2-129;2-129;2-129;2-129;2-129;2-134;2-126;2-104;2-129;2-123;2-129;2-104;2-126;2-129;2-115;2-129;2-129;2-120;2-129;2-128;2-115;2-95;2-129;2-73;2-129;2-129;2-126;2-129;2-134;2-129;2-129;2-126;2-128;2-129;2-129;2-129;2-134;2-134;2-129;2-129;2-104;2-129;2-129;2-129;2-134;2-134;2-125;2-129;2-129;2-129;2-134;2-115;2-125;2-129;2-134;2-103;2-129;2-134;2-105;2-129;2-129;2-134;2-125;2-129;2-129;2-129;2-115;2-129;2-128;2-129;2-129;2-129;2-129;2-124;2-117;2-129;2-129;2-125;2-134;2-134;2-134;2-113;2-105;2-122;2-126;2-129;2-129;2-125;2-129;2-129;2-107;2-129;2-121;2-126;2-129;2-126;2-134;2-134;2-134;2-134;2-129;2-129;2-125;2-129;2-129;2-129;2-129;2-129;2-125;2-129;2-129;2-129;2-129;2-126;2-126;2-129;2-12

Seq Id No.	Positions of biological 5'ESTs
15748	1-516;1-503;2-479;4-480;4-459;4-483;4-459;4-459;4-459;4-454;4-268;4-61;5-407;5-478;5-459;5-459;5-274;5-457;5-408;5-483;5-459;5-481;5-457;5-457;5-479;5-480;5-457;5-480;5-392;5-457;5-459;5-480;6-501;11-358;11-459;11-425;11-479;11-479;12-483;13-485;14-445;14-382;14-479;14-479;14-459;14-480;14-455;17-478;17-457;17-459;17-390;17-483;17-532;17-298;17-405;17-479;17-501;17-483;17-483;17-425;17-480;17-408;17-477;17-483;17-479;17-483;17-459;17-483;17-481;17-483;17-459;17-469;17-479;17-483;17-483;17-483;17-469;17-483;17-577;17-480;17-404;17-479;17-457;17-483;17-392;17-374;17-483;17-482;17-392;17-217;17-457;17-480;17-483;17-483;17-425;17-459;17-459;17-371;17-346;17-453;17-483;17-455;17-459;17-483;17-457;17-231;17-146;17-483;18-442;18-148;18-479;18-469;18-391;18-404;18-479;18-479;18-479;18-457;18-479;18-481;18-468;23-478;23-257;23-117;24-441;27-467;41-479;41-478;44-290;55-481;55-459;55-459;55-468;55-481;55-392;55-479;55-163;55-479;55-484;55-480;55-483;55-484;55-148;55-479;55-190;56-148;60-483;60-477;60-478;60-483;60-400;6
15791	1-453;1-481;1-465;1-483
15802	1-492;1-72;1-541
15823	1-199;1-127
15992	1-165;1-183;1-85;1-180
16002	1-337;2-377
16003	1-363;1-424;1-376
16004	1-471;1-495;1-403;1-468;1-498
16007	1-269;1-236;1-272;1-272;1-272;1-272;1-270;1-272;1-250;1-250;1-64;1-272
16036	1-449;1-526
16047	1-175;1-115
16062	1-110;2-107
16063	1-447;3-247
16064	1-376;1-450;1-128;1-311;1-428;1-311;1-327
16065	1-206;1-225;1-225;1-225;1-225;1-213;1-212;1-225;1-127;1-225;1-214;1-215;1-224;1-225;1-213;1-227;1-224;1-224;1-225;1-225;1-226;1-225;1-225;1-216;1-226;1-225;1-209
16066	1-405;1-405;1-394
16067	1-516;6-442
16068	1-217;1-234
16069	1-404;4-172

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16070	1-399;1-169
16071	1-479;1-482;1-480;1-308;1-471
16072	1-323;1-451;1-321;2-439;3-357;3-453;3-455;3-296;3-415;3-311;3-416;3-289;3-403;3-355;4-464;4-498;5-93;5-53;5-274;5-364;5-319;5-78;6-382;6-481;7-398
16073	1-455;13-500;18-168;18-212;18-144
16074	1-276;1-276;1-270
16075	1-458;1-470
16076	1-328;1-308;1-328;1-79;1-319;1-318;1-293
16078	1-357;1-351
16079	1-362;1-430
16083	1-215;1-215;1-215;1-215;1-213;1-215;1-213;1-137;1-213;1-215
16084	1-52;1-52
16085	1-388;6-373;18-301
16086	1-376;1-334
16087	1-499;1-489;1-436
16088	1-411;1-413;1-422
16089	1-479;1-529
16091	1-96;1-285;29-276;29-283;29-300;29-139;29-300;29-272;29-281;29-299;29-287;29-278;29-278;29-300;29-302;29-301;29-299;29-286;29-296;29-301;29-301;29-301;29-301;29-287;29-302;29-302;29-287;29-287;29-298;29-283;29-287;29-299;29-299;29-291;29-284;29-287;29-287;29-290;29-300;29-94;29-299;29-275;34-299
16094	1-333;37-492;43-538;49-572;49-372
16095	1-234;130-280;130-273;172-234
16098	1-486;1-556
16102	1-316;1-321;1-145
16103	1-70;1-384;1-470
16104	1-460;13-569
16105	1-219;1-216;1-351;1-238
16106	1-258;1-472;1-485;1-517
16107	1-462;1-466;1-230
16112	1-422;1-440;1-440;1-395
16113	1-76;1-72
16116	1-485;1-105;1-105;1-362
16117	1-459;1-470;1-438;1-105;1-105;1-455;1-528
16119	1-466;1-740
16121	1-116;1-395
16123	1-272;1-258
16124	1-512;1-441
16127	1-157;1-282;1-272;1-267;1-280;1-283;1-288;1-277;1-206;1-270;1-206;1-258;1-220;1-175;1-281;1-259;1-269;1-270;1-286;1-140;1-286;1-284;1-276;1-270;1-279;1-219;1-287;1-284;1-262;1-190;1-275;1-262;1-239;1-288;1-76;1-272;1-271;1-260;1-264;1-280;1-282;1-248;1-287;1-284;1-293;1-272;1-266;1-280;1-288;1-270;1-284;1-275;1-274;1-283;1-282;1-284;1-293;1-263
16146	1-479;1-408
16150	1-434;2-77
16151	1-350;1-309;1-350;1-350;1-249;1-350;36-337;36-347;36-342;36-353;36-353;36-127;36-353;36-351;36-353;36-350;36-352;36-315;36-350;36-353;36-115;36-314;36-353;36-353;36-346;36-353;36-315;36-315;36-351;36-352;36-353;36-352;36-353;36-350;36-140;36-352;36-333;36-297;36-340;36-343;36-315;36-316;36-305;36-350;36-351;36-336;36-327;36-346;36-204;36-350;36-328;36-353;36-350;36-351;36-353;36-341;36-338;36-350;36-353;36-352;36-350;36-353;36-350;36-353;36-315;36-317;36-351;36-353;36-140;36-351;36-352;36-353;36-349;36-351;36-349;36-330;36-140;36-315;36-344;36-321;36-350;36-317;36-345;36-353;36-353;36-353;36-211;36-353;36-353;36-349;36-276;36-353;36-349;36-353;36-353;36-350;36-351;36-138;36-353;36-350;36-350;36-315;36-350;36-308;36-334;36-347
16153	1-504;1-517;1-499;1-371;1-477;1-450;1-378;1-437;1-433;1-476;1-491;1-439;1-387;1-472;1-461;1-379;1-423;1-460;1-424;1-431;1-468;1-559;1-475;1-489;1-478;1-366;1-524;1-474;1-479;1-121;1-504;1-485;1-527;1-465;1-432;1-319;1-449;1-441;1-431;1-456;1-387;1-482;1-441;1-475;1-433;1-489;1-398;1-432;1-460;1-466;1-523;1-477;1-456;1-333;1-517;1-516;1-146;1-452;1-530;1-516;1-525;1-460;1-204;1-306;1-419;1-441;1-410;1-412;1-476;1-198;1-483;1-433;1-314;1-517;1-475;1-517;1-478;1-525;1-473;1-486;1-465;1-354;1-460;1-441;1-476;1-463;1-467;1-423;1-526;1-481;1-527;1-278;1-362;1-456;1-474;1-513;1-487;1-452;1-418;1-476;1-463;1-444;1-487;1-303;1-405;1-452;1-402;1-488;1-470;1-544;1-466;1-474;1-489;1-460;1-489;1-465;1-374;1-359;1-350;1-413;1-508;3-385
16154	1-193;1-121;1-146
16157	1-512;1-453
16158	1-435;1-476

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16159	1-446;1-493;1-439;4-523
16160	1-122;1-157
16168	1-456;1-478;1-527;1-469;1-451;1-507;1-493;1-497
16169	1-420;1-489
16170	1-409;2-349;2-361;2-113
16171	1-252;19-136;19-492
16172	1-347;1-435;1-446;1-460;1-444;1-489
16173	1-369;1-479
16176	1-504;1-441
16178	1-531;1-173
16179	1-403;1-366;1-402
16181	1-396;10-387
16182	1-388;1-473;1-494;1-449;1-493;1-462;1-494;1-416;1-231;1-111;1-255;1-508;1-472;1-341;1-508;1-427;1-104;1-494;1-508;1-547;1-403;1-351;1-465;1-355;1-494;1-492
16183	1-448;1-481
16184	1-243;1-409
16185	1-372;1-362;1-367;1-403;1-388;1-411;1-413;1-398;1-399;1-413;1-395;1-401;1-413;1-396;1-411;1-320;1-351;1-401;1-225;1-256;1-361;1-399;1-398;1-411;1-399;1-403;1-155;1-401;1-378;1-396;1-400;1-389;1-368;1-411;1-397;1-389;1-412;1-412;1-398;1-412;1-401;1-394;1-125;1-249
16186	1-431;1-418
16187	1-198;1-198;1-198;1-199
16191	1-418;1-418;1-418;1-418;1-418;1-477;1-418;1-418;1-416;1-418;1-418;1-416;1-416;1-397;1-412;1-418;1-408;1-418;1-418;1-364;1-418;4-146
16192	1-488;32-446;32-446;32-446;32-446;32-446;32-446;32-446;32-444;32-444;32-446;32-446;32-174;32-444;32-425;32-446;32-440;32-436;32-446;32-446;32-392;32-446
16193	1-211;4-146
16196	1-362;1-493;1-456
16207	1-414;2-430;2-341
16210	1-203;1-204;1-203
16211	1-388;1-393
16212	1-304;1-343
16213	1-384;1-440;1-412
16214	1-471;1-507
16220	1-250;1-536
16221	1-291;1-290;1-291;1-291
16222	1-201;1-493;1-255
16223	1-278;1-460;6-403
16224	1-421;1-585;1-518;1-537
16228	1-70;10-401;10-409
16229	1-416;1-409;1-188;48-117
16230	1-428;1-469;1-469;1-304;1-451;1-335;1-499;1-471;1-408;1-385;1-516
16231	1-448;1-459;1-459;1-458;1-483;1-327;1-272;1-472;1-419;1-92;1-327;1-402;1-377;1-218;1-92;1-377;1-402;1-478;1-386
16232	1-333;1-68;1-385
16235	1-464;1-372;1-464
16236	1-393;1-451;78-598;78-583;78-591;78-527
16237	1-246;1-248;1-246;1-249;4-112;4-108;4-111;4-100;4-108;4-102;4-108;4-108;4-107;4-61;4-108;4-108;4-90;4-111;4-111;4-100;4-108;4-108;4-74;4-90;4-114;4-107;4-108;4-108;4-108;4-106;4-108;4-108;4-99;4-84;4-91;4-108;4-91;4-108;4-92;4-108;4-108;4-91;4-107;4-101;4-108;4-108;4-108;4-100;4-73;4-88;4-108;4-84;4-90;4-85;4-108;4-111;4-91;4-107;4-110;4-107;4-83;4-78;4-107;4-108;4-108;4-108;4-111;4-93;4-111;4-108;4-108;4-111;4-99;4-107;4-83;4-108;4-108;4-90;4-108;4-102;4-108;4-111;4-108;4-111;4-107;4-91;4-107;4-108;4-111;4-108;4-108;4-107;4-108;4-85;4-69;4-107;4-108;4-108;4-111;4-107;4-108;4-100

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16238	1-118;1-104;1-118;1-118;1-118;1-124;1-118;1-118;1-118;1-119;1-118;1-118;1-118;1-118;1-105;1-118;1-118;1-119;1-118;1-104;1-118;1-105;1-118;1-97;1-81;1-71;1-117;1-81;1-118;1-118;1-118;1-105;1-105;1-118;1-118;1-124;1-118;1-118;1-118;1-118;1-105;1-118;1-105;1-118;1-118;1-118;1-118;1-105;1-118;1-118;1-124;1-118;1-118;1-118;1-97;1-118;1-119;1-118;1-118;1-118;1-124;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-80;1-118;1-118;1-118;1-119;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-118;1-105;1-118;1-105;1-119;1-118;1-88;1-118;1-118;1-119;1-124;1-118;1-118;1-111;1-118;1-118;1-118;1-104;1-118;1-82;1-118;1-118;1-118;1-118;1-120;1-104;1-118;1-118;1-118;1-118;1-118;1-124;1-105;1-118;1-124;1-118;1-118;1-118;1-118;1-118;1-118;1-124;1-124;1-118;1-104;1-124;1-105;1-111;1-118;1-118;1-119;1-118;1-105;1-87;1-120;1-118;1-118;1-118;1-109;1-118;1-118;1-111;1-98;1-118;1-118;1-105;1-118;1-124;1-118;1-118;1-96;1-118;1-105;1-88;1-118;1-118;1-118;1-118;1-118;1-118;1-89;1-118;1-118;1-118;1-118;1-118;1-118;1-124
16241	1-295;1-282;1-129;1-317;1-288;1-308;1-274;1-273;1-307;1-317;1-275;1-306;1-289;1-317;1-307;1-305;1-308;1-308
16242	1-92;1-52;1-81;1-93;1-92;1-81;1-92;1-92;1-84;1-83;1-68;1-97;1-97;1-92
16243	1-497;1-382;1-483;1-498;1-487;1-474;1-400;1-497;1-497;1-401;1-497;1-349;1-464;1-489;1-478;1-484;1-397;1-501;1-501;1-502;1-497;1-489;1-496;1-473;1-363
16244	1-401;1-401
16245	1-496;1-446
16246	1-331;1-337;1-317;1-331
16247	1-237;1-239

Seq Id No.	Positions of biological 5'ESTs
16248	1-138;1-138;1-163;1-136;1-135;1-163;1-138;1-160;1-138;1-138;1-88;1-163;1-525;1-136;1-136;1-136;1-163;1-160;1-160;1-163;1-138;1-138;1-163;1-129;1-136;1-163;1-138;1-136;1-138;1-160;1-136;1-163;1-138;1-136;1-136;1-160;1-136;1-136;1-376;1-138;1-138;1-163;1-136;1-138;1-136;1-136;1-144;1-136;1-163;1-138;1-138;1-136;1-138;1-138;1-160;1-138;1-144;1-138;1-163;1-136;1-136;1-163;1-136;1-163;1-144;1-136;1-138;1-136;1-136;1-160;1-163;1-136;1-138;1-138;1-163;1-138;1-138;1-163;1-160;1-138;1-160;1-136;1-160;1-136;1-160;1-136;1-88;1-136;1-163;1-138;1-138;1-136;1-136;1-136;1-136;1-136;1-138;1-324;1-160;1-136;1-138;1-160;1-163;1-138;1-136;1-163;1-136;1-136;1-136;1-129;1-163;1-163;1-138;1-138;1-138;1-163;1-138;1-163;1-136;1-138;1-163;1-137;1-138;1-136;1-138;1-163;1-136;1-160;1-163;1-160;1-160;1-138;1-138;1-163;1-163;1-138;1-163;1-138;1-160;1-138;1-138;1-129;1-136;1-138;1-138;1-160;1-163;3-523;3-476;3-510;3-378;3-497;3-453;3-483;3-482;3-500;3-447;3-475;3-512;3-509;3-526;3-509;3-631;3-498;3-483;3-500;3-496;3-525;3-499;3-498;3-525;
16263	1-252;1-322
16264	1-216;1-225;1-226;1-226;1-226;1-225
16265	1-490;1-456
16266	1-207;1-353
16269	1-166;1-430
16270	1-408;1-141
16271	1-141;1-508;1-502
16272	1-471;44-519
16274	1-336;1-333
16275	1-371;81-552
16276	1-77;1-352;1-458;1-453;1-458
16277	1-411;141-412;141-406;141-371;141-333;141-412;141-412;141-401;141-412;141-412;141-412;141-412;141-412;141-412;141-412;141-391;141-412;141-412;141-412;141-412;141-401;141-412;141-389
16278	1-283;1-454
16282	1-506;1-384
16285	1-176;1-492
16287	1-394;1-512
16296	1-348;1-363
16297	1-400;1-575
16299	1-306;1-477;1-491;1-477

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16300	1-474;1-474
16301	1-449;13-285;17-164
16302	1-272;1-531;1-461;1-462;1-460;1-321;1-556;1-441;1-493;1-503;1-487;1-414;1-510;1-560;1-447;1-487;1-77;1-357;1-461;1-413;1-342;1-575;1-567;1-464;1-526;1-481;1-417;1-585;1-400;1-489;1-577;1-445;1-458;1-174;1-493;1-496;1-522;1-518;1-475;1-331;1-577;1-134;1-363;1-336
16303	1-348;1-180
16307	1-491;291-495
16308	1-457;10-429;27-442
16309	1-103;1-176;2-107
16310	1-248;1-248
16311	1-454;1-535;156-655;156-652;156-640
16312	1-494;1-515;1-425;1-481;1-501;1-472;1-508;1-435;1-396;1-511;1-502;1-424;1-423;1-420;1-337;1-497;1-473;1-488;1-523;1-473;1-542;1-501;1-473;1-424;1-498;1-444;1-411;1-490
16315	1-162;1-144;1-160;1-166;1-165
16325	1-342;1-413
16327	1-535;1-269;81-568;81-393;81-538;81-587;81-577;81-562;81-574
16328	1-270;1-536;1-559;81-539;81-394
16329	1-423;1-489
16332	1-359;22-488;23-404;23-413;23-409;23-420;23-420;23-415;23-412;23-411;23-412;24-274;24-412;24-404;24-379;24-205;24-408;25-395;25-408;27-476;27-394;27-431;41-497;41-497;41-504;41-497;41-498;41-394;41-462;41-497;41-456;43-407;43-144;43-358;43-422;43-422;43-407;43-422;43-412;43-419;43-407;43-399;43-407;46-455;46-492;66-408;66-392;74-422
16333	1-140;1-146
16334	1-451;1-487
16335	1-493;1-317
16336	1-223;1-442;1-379;1-357;1-417
16337	1-484;1-513;1-423;5-227;5-362
16338	1-56;1-164;1-205;1-203;1-148
16346	1-239;1-239;1-239
16348	1-499;1-443
16351	1-257;1-85;1-269;12-84;12-183;12-141;12-99;12-269;12-98;12-85;12-160;12-271;18-151;18-151;18-98;44-159;44-159;45-272;45-299;45-299;45-159;45-292;45-295;45-159;45-304;45-300;45-282;45-159;45-299;45-304;45-156;45-292;45-156;45-293;45-137;45-293;45-159;45-136
16352	1-251;1-375;1-85;1-403;1-331;1-263;1-358;12-84;12-347;12-363;12-85;12-99;12-263;12-158;12-403;12-416;12-138;12-98;12-407;12-265;12-179;18-98;18-148;18-148;44-404;44-156;44-410;44-156;44-405;45-291;45-305;45-133;45-311;45-291;45-284;45-305;45-300;45-311;45-291;45-156;45-307;45-301;45-156;45-311;45-296;45-292;45-267;45-287;45-291;45-311;45-284;45-276;45-311;45-156;45-296;45-153;45-307;45-301;45-156;45-153;45-307;45-311;45-134;45-314;45-285;45-305;45-300;45-285;45-304;45-304;45-311;45-311
16354	1-445;1-399;1-98;23-420;29-417;29-417;29-416;29-416;29-123;29-253;29-447
16355	1-433;1-436;1-399;1-436;1-98;21-435;23-424;23-423;29-421;29-253;29-418;29-433;29-423;29-416;29-427;29-416;29-123;29-435
16358	1-473;1-173
16359	1-323;1-416;1-452;1-494;1-451
16360	1-432;1-408;1-404
16361	1-281;1-281
16363	1-505;1-482
16364	1-443;1-457
16365	1-299;1-438
16367	1-483;1-519
16368	1-382;1-382;1-390;2-333;2-389;2-378;2-389;2-388;2-389;2-384;3-388;4-391;4-372;4-377;4-389;4-389;4-383
16369	1-452;2-54
16370	1-478;1-470;1-430
16371	1-406;3-399
16372	1-451;2-500;2-335;2-501;2-352;2-396;2-507;2-476;2-542;2-495;2-518;2-479;2-500;3-376;35-529
16374	1-495;1-444;1-462;1-488;1-445
16376	1-402;1-469;1-463;1-491;1-341;1-465;1-469
16378	1-247;20-302;31-309;31-109
16379	1-301;1-424
16380	1-400;1-372
16382	1-80;1-82;1-68;1-68;1-82;1-82;1-82;1-82;1-80;1-80;1-68;1-80;1-80;1-82;1-80
16383	1-497;1-431;1-487
16384	1-472;1-372
16385	1-344;1-334;1-346;1-345
16386	1-443;1-490;1-404;1-435
16387	1-391;1-359
16388	1-440;1-490

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16389	1-132;1-119;1-161;1-118;1-118;1-100;1-148;1-118
16390	1-365;44-440
16393	1-360;4-56;14-403;14-404;14-379;14-402;14-386;14-386;14-393;14-404;14-385;14-393;14-383;14-386;14-390;14-397;14-381;14-393;14-390;14-389;14-406;14-389;14-390;14-390;14-383;14-405;14-390;14-395;14-393;14-386;14-380;14-175;14-398;14-393;14-405;14-404;14-390;14-393;14-402;14-405;14-377;14-406;14-390;14-395;14-403;14-404;14-390;14-390;14-390;14-389;14-400;14-383;14-402;14-390;14-401;14-259;14-405;14-403;14-394;14-349;15-394;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96;21-96
16395	1-440;1-446;1-336;1-439;1-449
16396	1-359;3-506;3-403;13-465;48-482;48-497;48-525;48-451;48-506;49-280;49-523;49-448;49-505;49-434;49-538;49-521;52-505;52-536;66-555;80-538;80-463;80-549;80-538;80-279;80-520;80-313;80-560;80-504;80-552;80-538;86-534;86-538;86-538;86-518;86-362;86-538;87-418;87-246;87-442;88-566;88-557;88-532;88-588;88-498;88-545;88-555;88-569;88-566;89-533;89-547;89-323;89-220;90-521;92-527;92-594;104-549;104-597;104-559;111-545;111-594;111-611;111-556;111-165;111-585;111-561;113-551;113-591;118-579
16397	1-472;14-465
16399	1-508;1-478;51-433
16401	1-536;350-848
16402	1-257;1-257;1-257;1-231;1-257;1-257;1-257;1-257
16403	1-421;8-321
16404	1-443;1-496
16410	1-137;1-53;1-153;1-112;1-147;1-443;1-167;1-528;52-568

Seq Id No.	Positions of biological 5'ESTs
16411	1-510;1-480;4-500;4-512;4-464;4-503;4-496;4-485;4-480;4-498;4-496;4-496;4-470;4-495;4-460;4-494;4-496;4-480;4-495;4-407;4-484;4-526;4-483;4-495;4-494;4-485;4-485;4-460;4-452;4-496;4-456;4-449;4-494;4-526;4-495;4-495;4-494;4-480;4-460;4-481;4-482;4-485;4-485;4-504;4-470;4-495;4-485;4-526;4-512;4-460;4-498;4-485;4-460;4-495;4-498;4-480;4-526;4-497;4-495;4-485;4-497;4-494;4-503;4-460;4-498;4-145;4-498;4-495;4-484;4-526;4-510;4-478;4-501;4-496;4-526;4-508;4-501;4-499;4-502;4-485;4-485;4-482;4-470;4-498;4-504;4-460;4-460;4-512;4-485;4-502;4-495;4-507;4-480;4-496;4-483;4-495;4-498;4-407;4-505;4-494;4-400;4-482;4-481;4-468;4-460;4-457;4-485;4-480;4-526;4-515;4-493;4-497;4-507;4-501;4-485;4-482;4-497;4-498;4-485;4-507;4-502;4-503;4-526;4-502;4-513;4-485;4-482;4-485;4-497;4-526;4-501;4-402;4-450;4-482;4-499;4-482;4-502;4-510;4-498;4-239;4-507;4-442;4-495;4-485;4-514;4-485;4-482;4-506;4-501;4-455;4-495;4-480;4-470;4-505;4-452;4-495;4-526;4-498;4-375;4-502;4-496;4-506;4-498;4-501;4-510;4-502;4-485;4-495;4-498;4-504;4-49
16412	1-138;1-54;1-371;1-372;1-326;1-372;1-223;1-349;1-154;1-317;1-305;1-113;1-300;1-148;1-273;1-170;1-349
16422	1-388;1-392
16423	1-464;1-413;1-178
16425	1-193;1-155
16427	1-397;1-504
16436	1-139;1-135;1-135;1-139;1-135;1-139
16439	1-505;1-75;1-361
16443	1-96;1-392;1-470;2-489
16444	1-367;1-492
16445	1-312;1-373;1-388;1-372
16446	1-173;1-468;1-485
16447	1-363;4-269
16448	1-482;4-489;5-478;5-380;5-458
16449	1-206;21-214;21-216;21-466;21-216;21-216;21-216;28-135
16451	1-93;1-91
16452	1-109;1-350;1-132;1-118;1-115;1-122;1-150;1-355;5-149
16453	1-109;1-118;1-115;1-175;1-122;1-151;1-172;1-133;5-150
16459	1-368;1-374
16460	1-416;1-486;1-477;33-293;33-476

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16461	1-191;34-479;34-481;34-521;34-490;34-505;34-230
16462	1-495;1-349;4-59;4-296
16463	1-445;1-454
16466	1-489;1-457
16467	1-101;1-86
16470	1-392;1-364
16471	1-123;1-115;1-237;1-234;1-390;1-248;1-470;1-372;1-486;1-370;1-240;1-424;1-196;1-369;1-404;1-234;1-387;1-67;1-248;1-388;1-337;1-463;7-486;45-529
16473	1-462;1-443;1-442
16474	1-442;9-452
16477	1-138;1-160;1-113;1-103;1-111;1-128;4-70;4-159;4-157;4-161;4-146;4-118;4-115;4-159;4-110;4-113;4-159;4-158;4-127;4-114;4-114;4-114;4-157;4-158;4-108;4-114;4-137;4-159;4-158;4-87;4-136;4-118;4-135;4-160;4-150;4-160;4-158;4-162;4-109;4-158;4-158;4-146;4-101;4-104;4-113;4-158;4-135;4-128;4-114;4-158;4-106;4-87;4-159;4-158;4-116;4-114;4-158;4-113;4-103;4-158;4-158;4-157;4-136;4-138;4-131;4-158;4-140;4-135;4-161;4-108;4-158;4-109;4-161;4-115;4-140;4-160;4-142;4-140;4-159;4-118;4-161;4-137;4-151;4-145;4-124;4-160;4-135;4-118;4-157;4-118;4-158;4-117;4-161;4-70;4-158;4-128;4-109;4-157;4-158;4-104;4-125
16484	1-439;1-441
16488	1-514;1-496;1-479;13-523;31-105;31-251;31-541;31-498;31-495;31-535;31-193;37-306;37-539;37-342;37-342;37-342;37-349;38-560;38-326;61-543;61-523;66-564;66-526;66-502;66-520;66-560;113-564
16497	1-435;1-455;1-412;1-421;1-486;1-485;1-466;1-277;1-497;1-412;1-513;1-486;1-337;1-361;1-364;1-472;1-491;1-487;1-487;1-485;1-479;1-406;1-230;1-513;1-473;1-470;1-492;1-497;1-478;1-513;1-343;1-408
16498	1-418;13-513;39-492;39-501
16502	1-327;2-429
16503	1-272;1-272;1-269;1-269;108-247;108-270;108-200
16506	1-484;20-433
16507	1-555;7-466;7-555
16508	1-477;1-418;1-477;1-420
16511	1-379;1-473;1-461;1-433;1-490;1-491;1-509;1-406
16513	1-131;1-131
16517	1-403;1-105;1-403
16518	1-353;1-446;1-96
16519	1-305;1-382;1-153
16521	1-200;23-426;23-129
16523	1-187;1-193
16525	1-401;1-411;6-410;6-413
16526	1-101;1-537;4-482;40-482;137-192
16529	1-400;1-430;1-413;1-404;1-423;6-422;6-426
16534	1-121;1-125;1-159
16554	1-539;1-479;1-472
16560	1-472;1-358
16561	1-434;378-875;378-903
16563	1-438;3-121
16564	1-417;5-125
16565	1-222;1-222;46-222;46-222
16566	1-240;9-431
16567	1-112;1-112;1-112
16568	1-496;96-606
16571	1-484;1-289;1-382;1-452
16572	1-461;1-453
16573	1-222;1-166
16574	1-400;1-434;1-430;54-446;54-272;54-382;107-478;107-495
16576	1-244;1-355;1-389;1-396
16577	1-244;1-354;1-387;1-403
16579	1-501;1-508
16580	1-342;1-240
16582	1-178;1-380;1-378;1-380;3-381
16583	1-454;1-477;1-488;1-481
16585	1-447;1-432;1-443
16586	1-157;33-87;33-94
16589	1-493;1-486;1-499;1-475;1-224
16590	1-401;1-421
16591	1-515;1-424;1-484;1-497
16592	1-149;28-506
16593	1-119;1-187
16595	1-510;1-502;1-320
16596	1-422;1-197
16597	1-488;1-369;1-479;1-499;1-447;1-480;1-480;1-484;1-499;1-355;1-498;1-469;1-480;1-428;1-469;1-477;1-368;1-499;1-422;1-480;1-468;1-453;1-433;1-574;1-527;1-480;2-499
16598	1-336;1-328;1-331;1-355;1-355;1-355
16599	1-271;1-327;41-391;155-377;155-388;205-385;205-404
16600	1-396;1-442
16601	1-416;1-487
16602	1-275;1-257;1-202

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16603	1-306;1-308;1-334;1-69;1-343;1-314;1-333;1-71;1-334;1-307;1-327;1-313;1-314
16604	1-450;1-468
16605	1-230;1-235;1-244;1-241;30-132
16612	1-440;1-402
16613	1-467;1-424
16614	1-523;4-258
16615	1-493;1-471;1-156;1-399;31-285
16616	1-434;1-423
16617	1-298;1-106
16618	1-458;1-424;1-432;1-431;1-458;1-444;1-458;1-469;1-445;1-193;1-435;1-461
16621	1-491;1-338
16622	1-222;1-422;1-425;1-431;1-418
16623	1-60;1-57
16624	1-211;1-458
16625	1-144;1-144;12-488;12-144
16626	1-473;1-454
16627	1-419;2-397;2-454;2-461;2-490;2-479;2-479;2-389;2-384;2-479
16628	1-323;1-325;1-334;1-62;1-334
16633	1-68;1-433;1-388
16634	1-132;1-182;1-182;1-107;1-166;1-182;1-169
16635	1-399;1-372
16637	1-413;1-443;1-280
16638	1-480;1-406
16639	1-367;1-367
16640	1-392;7-390
16641	1-452;1-482
16642	1-464;1-455
16643	1-75;1-123;1-130;1-135;1-134;1-135;1-91;1-125;3-90;55-126
16644	1-143;1-348;1-345;1-336;1-345
16645	1-414;1-281
16648	1-466;6-458
16651	1-415;1-434;1-516
16652	1-411;1-377;2-436
16653	1-369;1-408;1-124;1-517;1-464;1-473;1-517;1-517;1-498;1-448
16654	1-375;1-375;1-353;1-374;1-375
16655	1-367;1-354
16656	1-371;1-430
16657	1-430;373-900;373-757;373-761;373-879;374-823;375-901;376-912;377-849;377-865;378-761;378-906;388-803;388-868;388-784;388-803;391-761;394-748;396-901;396-793;396-702;396-885;401-906;401-901;401-911;401-902;401-722;401-750;401-891;401-761;401-750;401-914;401-828;401-794;401-762;401-901;404-902;404-911;404-892;404-856;404-761;406-761;407-912;407-891;407-674;409-910;409-895
16659	1-457;1-198;1-444
16660	1-445;1-387;1-463;1-445
16661	1-475;1-464;1-446;1-450
16662	1-452;1-438
16663	1-455;10-326;10-475
16665	1-439;1-504;4-119
16667	1-528;1-401;1-203;1-325;1-473;1-475
16668	1-469;1-472
16670	1-550;4-417;4-255;4-473;4-441;27-235
16671	7-427;7-489;49-497;49-259;49-308;49-478;49-517
16674	1-498;1-506;1-230;1-498;1-527;1-318;1-506;1-521;1-506;1-498;1-249
16675	1-183;6-395
16676	1-609;1-470
16679	1-115;1-216;1-210;1-216;1-216;1-204;1-216
16681	1-463;1-379;1-499;1-454;1-445;1-531;1-497
16682	1-430;1-571;1-439;1-469
16683	1-85;1-56;1-57;1-87;1-100;1-88;1-81;1-84;1-80;1-96;1-93;1-95;23-80
16684	1-85;1-56;1-85;1-81;1-85;1-57;1-80;1-84;23-244;23-239;23-235;23-264;23-244;23-243;23-244;23-243;23-253;23-243;23-357;23-361;23-256;23-247;23-80;23-243;23-243;23-260;23-256;23-254;23-360
16697	1-394;1-377
16698	1-447;1-472;1-370;1-450
16699	1-498;1-297
16700	1-482;1-476;1-513;1-432;1-449;1-478;1-457
16701	1-155;1-155
16702	1-486;1-446;1-464;1-409;1-477;1-491;1-498;1-452;1-467;1-487;1-260
16703	1-241;1-211
16704	1-418;1-472;1-481;1-466
16709	1-269;1-396;1-417;1-212;1-484;1-408;1-362;1-448;1-470;1-448;1-459;1-484;3-453;3-472;39-468

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16715	1-378;1-443;1-385;2-146
16716	1-451;1-395;1-496
16717	1-159;1-176
16718	1-372;1-486;1-451;1-527;1-478;1-497;1-475;1-467
16722	1-214;1-214;1-214;1-214;1-211;1-214;1-214;1-211;1-214;1-214;1-214;1-214;1-214;1-214
16723	1-476;12-485
16726	1-482;107-569;107-569;107-575;107-581;107-562
16728	1-492;1-480;1-480;1-479
16737	1-457;1-527
16738	1-128;1-128;1-128;1-117;1-117;1-117;1-117;1-118;1-117;1-118;1-118;1-128;1-117;1-118;1-118;1-118;1-117;1-118;1-128;1-118;1-128;1-128;1-118;1-128;1-118;1-117;1-118;1-118;1-117;1-117;1-117;1-128;1-121;1-118;1-118
16739	1-116;1-116
16742	1-527;1-558;1-565;1-488
16743	1-339;1-342
16744	1-432;1-282
16745	1-536;1-536
16746	1-87;1-87;1-89;1-89;1-84;1-89;1-84;1-87;1-89;1-87;1-89;54-498
16747	1-428;1-461
16748	1-473;1-467;1-474
16749	1-484;1-503;1-498;1-480;1-477
16750	1-293;41-386;41-265;41-438;41-530;41-402;41-468;41-400
16751	1-65;19-462;31-194;308-794
16752	1-65;9-337;19-394;31-197
16753	1-490;36-475
16754	1-488;1-440;33-367;33-139
16756	1-245;1-245;1-244
16757	1-248;1-203
16758	1-217;1-206;1-206;1-120;1-216;1-216;1-217;1-222;1-222;1-216;1-216;1-217;1-217;1-203;1-217
16761	1-324;1-525;1-511
16764	1-374;1-498;1-418;1-374;1-442;1-442;1-448;1-314
16765	1-330;1-322;1-325;1-300;1-322;1-330
16766	1-121;22-117;26-233;26-112
16769	1-460;1-464
16770	1-346;1-342;1-338;1-358
16771	1-412;1-412
16772	1-461;1-463;1-468;1-505;1-492;1-478;1-439;1-217;1-542;1-494;1-480;1-371;1-232;1-489;1-464;1-397;1-218;1-463;1-483
16773	1-215;1-398;35-418
16774	1-251;1-256;1-256
16775	1-358;1-355;1-347;1-356;2-354;2-354;3-342;3-234;3-190
16776	1-112;1-113;1-113;1-132;1-128;3-127;3-100;3-114;3-113;3-128;3-128;3-113;3-117;3-130;3-128;4-111;4-130;5-108;5-103;5-130;5-95;5-106;5-130;5-103;5-128;5-127;5-130;5-71;5-130;5-121;5-131;5-102;5-126;5-126;5-107;5-126;5-130;5-126;5-130;5-94;5-129
16777	1-233;1-189;2-253
16787	1-118;1-196;1-104;1-116;1-213
16790	1-540;1-475;16-421;16-651;16-501;16-531;27-436;27-527;27-529;27-497;28-296;28-543;28-266;29-613;29-605;30-541;30-624;30-518;30-347;30-453;30-456;30-586;30-597;30-528;30-541;30-496;30-493;30-453;30-490;30-450;30-496;30-528;30-531;30-665;30-405;30-501;30-576;30-493;30-493;30-540;30-493;30-436;30-617;30-493;30-552;30-682;30-676;30-514;30-539;30-272;30-639;30-551;30-456;30-548;30-403;30-517;30-436;30-423;30-546;30-582;30-490;30-531;30-543;30-439;30-439;30-476;30-496;30-476;30-542;30-490;30-476;30-453;30-519;30-549;30-493;30-439;30-540;30-501;30-423;30-517;30-543;30-489;30-345;30-476;30-540;30-424;30-540;30-489;30-484;30-540;30-531;30-493;30-530;30-456;30-517;30-531;30-665;30-517;30-567;30-548;30-541;30-552;30-546;30-595;30-453;30-540;30-493;30-529;30-356;30-421;30-422;30-543;30-527;30-490;30-423;30-527;30-485;30-613;30-488;30-516;30-528;30-394;30-496;30-435;30-543;30-575;30-436;30-202;30-560;30-665;30-487;30-598;30-433;30-493;30-563;30-519;30-496;30-312;30-539;30-496;30-624;30-548;30-519;30-424;30-439;30-439;30-4
16794	1-470;1-482
16795	1-117;31-429
16796	23-334;23-406;23-332;71-423
16798	1-108;1-80
16808	1-447;1-425;1-428
16809	1-430;1-437;1-457;1-424
16810	1-243;1-262;1-400;1-390
16811	1-463;1-528

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16815	1-453;110-574;110-562;110-547;110-574
16817	1-233;1-395;1-361;1-455;1-432
16818	1-118;1-290;1-265
16820	1-311;1-524;1-495;1-340
16821	1-559;1-440
16822	1-483;1-492;1-500;1-499;1-504
16823	1-531;1-166
16824	1-194;1-183;19-93;19-107;70-371;70-154;71-195;71-160
16826	1-348;1-448
16828	1-558;1-486
16830	1-450;1-293
16838	1-268;1-263;1-256
16839	1-415;1-463;1-526;1-339;1-485;1-344;1-282;1-412;1-344
16840	1-515;1-386;1-474
16841	1-334;1-89;1-343
16844	1-459;1-453
16845	1-372;1-93;1-501;2-410;11-432
16846	1-471;1-436;1-349
16847	1-197;1-194;1-174;1-174
16848	1-432;1-130
16849	1-447;1-255;1-475;1-493;1-495
16850	1-429;1-270
16851	1-427;297-843
16853	1-175;10-92;10-107;10-70;10-72;10-72;10-126;10-155;10-87
16855	1-517;1-310
16856	1-275;1-250
16857	1-478;1-476
16859	1-418;1-418;1-392;1-436;1-237;1-425
16860	1-419;1-408;1-373
16861	1-445;1-416
16863	1-411;1-430
16864	1-436;35-391
16865	1-375;1-111;1-386;1-390;1-399;1-81;1-246;1-392;1-400;1-400;1-381;1-382;1-381;1-382;1-399;1-381;1-399;1-395;1-391;1-383;1-382;1-394;1-379;1-399;1-381;1-391;1-400;1-147;1-392;1-386;1-83;1-386;1-400;1-389;1-386;1-400;1-313;1-389
16866	1-291;1-286;1-302
16867	1-156;1-156;1-156;1-156;1-155;1-156;1-155;1-156;1-156;1-155;1-156;1-156;1-156;1-155;1-156;1-155;1-156;1-156;1-155;1-156;1-156;1-155;1-156;1-155;1-156;1-144;1-156;1-65;1-155;1-155;1-156;1-155;1-156;1-155;1-156;1-156;1-156;1-156;1-155;1-155
16868	1-122;1-112
16874	1-461;1-281
16875	1-237;1-237
16876	1-50;1-474
16877	1-454;1-304
16878	1-471;1-449;1-476;1-562;1-499;1-563;1-325;1-500;1-551;1-583;1-465;1-468;1-486;1-485;1-552;1-551;1-56;1-457;1-471;1-486;1-445;1-480;1-358;1-230;1-479;1-442;1-365;1-495;1-497;1-333;1-486;1-421;1-442;1-491;1-496;1-562;1-353;1-175;1-496;1-453;1-440;1-563;1-450;1-488;1-450;1-465;1-434;1-443;1-77;1-378;1-571;1-563;1-419;1-188;1-469;1-484;1-457;1-478;1-487;1-190;1-496;2-403
16880	1-426;17-370;56-541;56-488;56-461;56-347;56-172;56-548;56-434
16881	1-337;36-602
16882	1-424;1-371;1-383;1-277
16883	1-313;1-299
16884	1-439;1-216;1-474;1-474;1-482;1-346
16885	1-514;1-432;1-474
16886	1-470;1-434;1-295
16887	1-543;1-524;1-508;1-356;1-429;1-582;1-584;1-583;1-561;1-602;1-557;1-528;1-582;1-582;1-585;1-525;1-582;1-485;1-582;1-583;1-582
16888	1-169;4-127
16889	1-342;28-333
16890	1-370;2-366;5-380;18-425;24-431
16891	1-138;1-136;1-157;1-150
16892	1-405;1-405
16894	1-453;10-513
16895	1-438;1-496
16896	1-466;1-472;1-357;1-561
16898	1-337;1-373;1-540;1-311;1-337
16899	1-473;1-426;1-339;1-407;1-465;2-453
16900	1-426;256-681
16901	1-368;1-337;51-338;51-338;51-338
16902	1-524;1-306;1-576
16904	1-177;1-198;1-199;1-456
16905	1-480;1-448;1-496;1-234;1-122;1-462;1-333;1-491;1-513;1-281;1-527;1-480;1-490;1-496;1-442;1-480;1-481;1-514;1-493;1-512;1-526;1-491;1-501;1-501;1-478;1-480;1-489;1-492;1-464;1-511;1-487;1-445;1-509;1-402;1-482;1-490;1-509;1-513;1-522;1-253;1-492;1-486;1-496;1-493;1-480;1-514;1-452;1-413;1-520
16906	1-431;1-135

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
16908	1-432;1-422;1-449
16909	1-334;1-349;1-348
16910	1-216;1-216;1-216;9-98
16911	1-350;1-435
16912	1-472;1-427
16913	1-422;1-439
16914	1-385;1-449
16915	1-382;1-305;1-510;1-476
16916	1-192;1-193;1-193;1-193;1-180;1-193
16917	1-487;1-494;1-503;1-471;1-420;1-435;1-373;1-399;1-119;1-445;1-391
16919	1-505;1-457
16920	1-478;1-458
16924	1-152;1-154;1-154
16925	1-175;1-215;1-208;1-166;1-144;1-215;1-178;1-212;1-219;2-217;3-104
16947	1-477;1-528;1-528
16948	1-425;9-308
16959	1-403;1-370;1-521;1-372;1-458;1-262;1-461;1-371;1-448;1-410;1-492;1-372;1-405;1-448;1-429;1-326;1-200;1-403;7-399;16-428;16-477;16-279;16-469;16-526
17000	1-372;1-349;1-361;1-360
17011	1-431;1-335;1-474;1-431
17032	1-491;1-57
17043	1-487;1-470
17065	1-207;1-207;1-219;1-119;1-215
17076	1-429;1-470;1-487
17084	1-395;1-418
17085	1-248;1-248;1-249;1-248
17086	1-463;1-234;1-513;1-502
17087	1-137;1-223
17089	1-487;1-460
17091	1-214;1-163;1-132;6-130;25-133;25-189
17092	1-263;1-291
17093	1-508;1-472
17094	1-243;1-150;1-414
17098	1-72;1-72;1-72;1-68;1-72;1-72
17099	1-380;1-449
17100	1-466;308-710;312-381
17101	1-414;1-482;1-482;1-408;1-454;1-402;1-434;1-442;1-213;1-482;1-419
17102	1-466;1-477;1-498;1-498;1-534;1-471;1-428
17105	1-455;1-542
17106	1-77;1-92
17107	1-477;1-287
17108	1-411;1-275
17110	1-139;1-138;1-139;1-138
17112	1-449;1-399
17113	1-510;1-455
17117	1-91;1-91;1-91;1-91;1-91;1-91;1-91;1-91;1-91
17118	1-310;1-500;1-89;1-327;1-442;1-496;1-488;1-432;1-507
17119	1-405;3-426
17121	1-471;1-469
17122	1-448;1-452
17123	1-295;1-302;1-301;1-271;1-304;1-295;1-306;1-306;1-310;1-305;1-295;1-271;1-312
17125	1-430;1-545;1-480;1-562;1-462
17127	1-505;1-492;1-465
17128	1-379;1-338
17129	1-399;1-407;1-414;1-406;1-412;1-415;1-414
17130	1-547;1-397;1-298;1-439
17131	1-455;1-470;234-414
17132	1-487;46-520
17133	1-369;1-351;1-351;1-369;1-371;1-351;1-344;1-368;1-369;1-368;1-345
17134	1-439;1-472;1-510
17135	1-476;21-192
17137	1-447;1-434;1-441
17138	1-336;1-346
17139	1-294;1-457;1-459;1-487;1-410;1-469;1-503
17141	1-90;1-195;1-250
17143	1-168;1-168;1-167;1-168;1-169;1-168;1-126;1-168;1-127;1-168;1-168;1-143;1-168;1-127;1-168;1-119;1-137;1-167;1-128;1-128;1-167;1-168;1-168;1-168;1-168;1-128;1-116;1-168;1-113;1-168;1-168;1-126;1-127;1-152;1-136;1-128;1-168;1-116;1-127;1-168;1-168;1-150;1-168;1-168;1-168;1-138;1-136;1-78;1-168;1-121;1-86;1-126;1-122;1-168;1-131;1-150;1-120;1-168;1-122;1-168;1-164;1-132;1-117;1-126;1-163;1-70;2-153
17150	1-376;1-505;1-364;1-462
17152	1-107;1-107;1-107;1-107;1-107;1-107;1-107;1-107;1-107;1-114;1-107;1-107;1-107;1-107;1-107
17153	1-141;1-269
17154	1-430;1-498;1-400;1-433;39-201
17155	1-449;1-199
17156	1-342;1-356;1-101
17157	1-515;1-479;1-486
17158	1-500;1-575
17161	1-417;2-192
17162	1-383;1-195;1-410;1-416;1-384

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17163	1-520;1-378;1-476
17164	1-376;1-372;1-463;1-501
17166	1-297;1-460;1-397;1-422;1-457;1-341;1-440;1-179;1-354;1-449;1-477;1-456;1-449;1-103;1-364;1-458;1-462;1-326;1-456;1-457;1-314;1-352;1-362
17167	1-297;1-625;1-397;1-422;1-487;1-457;1-495;1-551;1-440;1-341;1-449;1-478;1-484;1-364;1-564;1-507;1-314;1-352;1-460;1-362;1-477;1-550;1-103;1-571;1-354;1-179;1-456;1-449;1-477;1-458;1-565;1-551;1-462;1-457;1-326;1-456;4-551
17170	1-453;1-438;1-472;7-418;7-474;7-479;11-476;14-426;14-410;17-351;25-222;25-337;25-349;25-498;25-480;25-258;30-480;30-506;30-465
17171	1-350;4-483;22-219;22-482;22-490;22-564;22-255;24-460;53-515
17174	1-347;1-105
17175	1-477;3-437
17176	1-431;356-844;356-853;356-845;356-836;356-745;356-808;356-814;356-752
17177	1-498;1-480
17178	1-91;1-103;1-132;1-142;1-142;1-142;1-140;1-132;1-132;1-123;1-132;1-132;1-132;1-132;1-142;1-50;1-122;1-132;1-137;1-132;1-142;1-131;1-140;1-131;1-133;1-142;1-122;1-130;1-142;1-132;1-132;1-132;1-122;1-142;1-132;1-123;1-123;1-141;1-142;1-142;1-135;1-138;1-131;1-132;1-106;1-132;1-132;1-132;1-95;1-138;1-142;1-132;1-132;1-131;1-108
17179	1-571;1-566
17180	1-165;1-165
17181	1-372;1-433
17189	1-491;50-453
17190	1-375;66-290
17191	1-387;1-450
17192	1-527;1-348;1-527
17193	1-121;58-416;58-443;58-426;58-424;58-302;58-415;58-431;58-362
17194	1-70;1-134;1-457;1-491;1-232;1-424;1-519;1-431;1-424
17195	1-319;1-319;1-319;1-308;1-305;1-302;1-308;1-304
17196	1-348;1-315
17197	1-451;20-504;40-223;40-454;40-153;42-521;42-300;42-521;42-475;42-397;45-538;45-151;45-374;45-475;45-550;45-194;45-531;45-414;45-526;46-162;46-164;47-565;47-287;54-565

Seq Id No.	Positions of biological 5'ESTs
17198	1-54;1-51;1-51;1-54;1-51;1-54;1-51;1-51;1-51;1-54;1-51;1-51;1-54;1-54;1-54;1-54;1-54;1-51;1-51;1-54;1-54;1-54;1-54;1-54;1-51;1-51;1-54;1-54;1-54;1-51;1-54;1-51;1-54;1-54;1-51;1-51;1-51;1-51
17201	1-261;1-203;1-401;1-377;1-399;1-401;1-401;1-368;1-387;1-134;1-398;1-373;1-260;1-262;1-252;1-399;1-387;1-255;1-225
17203	1-331;1-414
17204	1-384;1-398;1-386
17205	1-369;1-133;1-127;1-70;2-119
17206	1-391;1-438;1-424;1-465;1-268;1-278;1-70;1-133;1-422;1-127;1-393;1-444;1-296;1-395;2-119
17207	1-580;1-554
17208	1-450;2-79
17211	1-441;1-398;1-462
17212	1-290;1-447
17215	1-393;1-404
17216	1-80;1-439
17217	1-432;1-182
17218	1-221;1-138;1-59
17219	1-263;1-85;1-390;1-381;1-380;1-390;1-400;1-388
17220	1-288;1-493;1-535;1-482;1-138;1-368;1-505;1-480;1-509
17221	1-369;34-546;35-565;35-507;35-486;35-501
17222	1-369;34-546;35-507;35-486;35-501;35-571
17224	1-436;1-447;1-406;1-425;1-479;1-473;1-436;1-392;1-456;1-470;1-477;1-473;1-406;1-472;1-404;1-442;1-450;1-477;1-410;1-473;1-477;1-364;1-406;1-477;1-477;1-475;1-461;1-442
17225	1-249;1-285
17226	1-412;1-462;1-413
17227	1-126;1-126;1-126;1-126;1-126;1-126;1-126;1-126;1-126;1-71;1-126;1-126;1-126;1-126;1-107;1-116;1-126;1-100;3-126
17228	1-222;1-377
17230	1-453;1-429
17231	1-233;1-247;1-248;1-248;1-248;1-241;1-246;1-247;1-246;1-210;1-246;1-202;1-247;1-247;1-222;1-229;1-242;1-244
17236	1-280;1-286
17237	1-352;1-348;1-463;1-460;96-158
17238	1-414;7-388;7-415;7-62;7-409
17239	1-276;1-272
17240	1-172;1-324

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17241	1-523;1-357
17242	1-257;1-329
17243	1-468;1-510
17244	1-468;1-466
17245	1-249;1-424;1-343;1-407;3-173
17247	1-311;1-311
17248	1-229;1-384
17249	1-287;1-193;1-457
17250	1-291;1-125
17251	1-258;1-274;1-274;1-274
17253	1-409;1-559;1-519;1-457
17254	1-331;16-433
17255	1-333;1-321;1-335
17256	1-490;283-722
17257	1-261;4-276;29-447;29-200
17258	1-479;5-263;6-278;31-202
17259	1-350;1-351
17260	1-382;1-480
17262	1-536;1-235
17263	1-464;1-466;1-310;29-260
17264	1-383;1-349;1-454;23-204;27-326
17265	1-479;1-489
17266	1-329;1-461;1-463;1-395;1-462;1-454;1-457;1-457;1-447;1-434;1-468;1-457;1-451;1-408;1-450;1-444;1-442;1-452;1-424;1-457;1-169;1-453;1-450;1-447;1-451;1-451;1-443;1-462;1-472;1-365;1-452
17267	1-354;1-402;1-458;1-439;1-544;1-444;1-459;1-102;1-444
17268	1-520;1-508;11-453;40-509;40-507;40-509;40-527;40-486;40-512;40-283;40-442;40-512;40-528;40-528;40-455;40-456;40-528;40-470;40-498;40-442;40-363;40-528;40-487;40-497;40-402;40-530;40-528;40-498;40-425;40-478;40-472;40-478;40-512;40-555;40-498;40-452;40-523;40-261;40-527;40-528;40-475;40-443;40-439;40-403;40-134;40-506;40-506;40-528;40-438;40-528;40-509;40-512;40-496;40-385;40-300;40-509;40-99;44-477
17269	1-530;1-518;11-462;40-546;40-546;40-508;40-434;40-519;40-517;40-581;40-519;40-535;40-549;40-546;40-549;40-545;40-496;40-451;40-571;40-568;40-522;40-280;40-568;40-549;40-580;40-549;40-522;40-567;40-544;40-567;40-570;40-464;40-465;40-544;40-535;40-568;40-569;40-580;40-546;40-568;40-508;40-567;40-451;40-545;40-549;40-559;40-569;40-497;40-488;40-568;40-412;40-507;40-549;40-535;40-535;40-568;40-581;40-571;40-567;40-582;40-508;40-535;40-581;40-562;40-544;40-584;40-563;40-575;40-413;40-568;40-586;40-567;40-482;40-488;40-575;40-581;40-581;40-522;40-508;40-581;40-584;40-461;40-568;40-533;40-568;40-568;40-262;40-569;40-584;40-535;40-535;40-583;40-549;40-572;40-485;40-565;40-568;40-452;40-448;40-557;40-516;40-570;40-522;40-516;40-568;40-543;40-447;40-563;40-549;40-535;40-547;40-581;40-519;40-134;40-545;40-568;40-568;40-579;40-302;40-396;40-506;40-549;40-519;40-99;40-549;43-581;44-487
17270	1-219;1-59;1-94;14-456;14-451;33-464
17274	1-321;1-283
17275	1-473;1-413
17278	1-486;1-376;1-135
17279	1-421;1-340
17280	1-500;1-475;16-524;16-447;16-180;16-474;16-505
17281	1-260;1-267;1-448
17282	1-486;1-475
17283	1-468;39-439
17284	1-492;1-394;1-474;1-499
17287	1-369;1-154
17288	1-510;1-483
17289	1-501;1-436;1-493
17290	1-559;1-455
17293	1-446;1-399;1-471
17298	1-422;1-488;1-471
17300	1-147;3-139;3-126;3-372;3-152;3-151;3-139;3-75;3-139;3-277;3-85;5-125;5-139;5-139;5-115;5-152;5-139;6-139;6-139;6-132;6-152
17301	1-83;1-73;1-123;3-122;3-130;3-112;4-92
17302	1-204;1-197
17304	1-307;1-348
17305	1-456;1-278
17306	1-411;21-442
17307	1-62;1-499

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17308	1-56;1-85;1-82;1-79;1-80;1-73;1-61;1-87;1-55;1-137;1-78;1-81;1-82
17309	1-332;11-478
17314	1-471;1-443;1-460
17315	1-274;38-412
17316	1-520;1-457;1-486;1-466;1-457;1-479;1-503;1-169;1-491;1-425;1-435;3-474
17317	1-453;1-429;1-317;1-492;1-469;1-461
17318	1-83;1-75;1-83;1-83;1-83;1-83;1-83;1-83;1-83;1-83;1-84;1-74;1-84;1-83;1-83;1-83;1-83;1-83;1-82;1-50;1-74
17319	1-514;1-503;1-525;1-513
17320	1-250;1-250
17321	1-490;1-83
17322	1-402;4-86
17324	1-498;1-454
17325	1-424;1-293;1-492;1-517
17326	1-396;1-312
17327	1-453;1-542
17328	1-595;1-353;1-483
17329	1-541;1-149;1-467
17330	1-368;1-104;1-191;1-160;1-518;1-445;1-489;1-345;1-427;1-333;1-406;1-489;1-400;1-468;2-190;2-205;316-751;330-757;330-427;330-464;330-736;330-749;330-544;330-763;330-728;330-553;330-733;330-677;330-736;330-794;451-902;462-677;462-812;554-671;592-1053;673-1041;673-1040;673-999;880-1349;1241-1549
17331	1-156;3-346
17332	1-492;1-440;1-433
17333	1-447;1-420;1-425;4-431
17334	1-469;1-499
17337	1-447;1-390;1-447
17338	1-169;1-169
17339	1-481;13-197
17340	1-406;1-476;1-536;1-477;1-390;1-493;2-250;6-445;42-500;42-218;42-494;42-278;42-459;42-365
17341	1-365;1-443
17342	1-392;33-316
17343	1-299;1-299;1-299;1-299;1-175;1-299;1-299;1-299;1-299;1-299;1-301;1-299;1-301;1-299;1-301;1-301;1-121
17345	1-380;1-435
17347	1-469;15-441;15-470
17348	1-478;1-488;1-480;235-672
17349	1-501;1-483;1-480;48-503;48-512;56-450;72-543
17350	1-97;1-230;1-109;1-167;1-111;1-214;1-198;1-230;1-257;1-231;1-231;1-221;1-231;1-230;1-215;1-231;1-257;1-231;1-222;1-230;1-92;1-231;1-138;1-228;1-231;1-231;1-123;1-222;1-257;1-257;1-230;1-231;1-219;1-121;1-257;1-122
17351	1-97;1-246;1-246;1-246;1-246;1-245;1-246;1-246;1-230;1-167;1-109;1-246;1-246;1-246;1-111;1-198;1-214;1-230;1-246;1-246;1-246;1-246;1-246;1-231;1-246;1-246;1-246;1-246;1-246;1-232;1-246;1-246;1-245;1-246;1-246;1-245;1-246;1-221;1-245;1-232;1-246;1-246;1-230;1-243;1-238;1-245;1-215;1-234;1-244;1-246;1-247;1-232;1-247;1-233;1-246;1-222;1-230;1-92;1-232;1-246;1-246;1-138;1-245;1-246;1-246;1-228;1-246;1-247;1-232;1-231;1-246;1-123;1-246;1-226;1-246;1-222;1-246;1-248;1-246;1-246;1-246;1-246;1-239;1-230;1-233;1-246;1-246;1-245;1-246;1-238;1-245;1-246;1-219;1-246;1-121;1-246;1-246;1-246;1-122
17352	1-445;1-444;1-476;1-447
17353	1-414;4-319
17354	1-479;1-502;1-500;1-473;1-499;1-286
17355	1-402;1-345
17356	1-445;1-452;1-486;1-463;1-289;1-412;1-411;1-432;1-506
17357	1-291;1-290;1-291;1-127;1-250;1-291;1-291;1-291;1-290;1-291;1-290;1-126;1-290;1-291;1-291
17358	1-477;1-503
17359	1-482;1-357;1-389;1-424;1-384
17360	1-482;1-443;1-483
17361	1-423;1-468
17363	1-501;1-408;1-535
17364	1-298;2-393;2-408;2-416
17365	1-471;1-465;1-446
17367	1-408;1-174;1-437
17368	1-460;1-456;5-265
17369	1-492;158-591;319-573;319-591;319-578
17370	1-418;1-436;1-443;1-395;1-261
17373	1-483;1-502
17374	1-472;1-479
17375	1-358;1-500;1-500;1-500;1-501;1-480
17376	1-415;1-434;1-359
17377	1-412;1-441
17381	1-454;1-450;1-390;1-445;1-304;1-347;1-390;1-447;1-441;1-450;5-240

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17383	1-384;1-411;1-475;1-472;1-346;1-472;1-472;1-472;1-201;1-412;1-472;1-472;1-472;1-470;1-472;1-421;1-460;1-472;1-411;1-472;1-434;1-463;1-271;1-245;1-472;1-472;1-418;1-409;1-458;1-422;1-472;1-472;1-472;1-472;1-481;1-472;1-410;1-391
17386	1-481;1-451
17388	1-278;1-318;1-312;1-312;1-312;1-312
17389	1-304;1-304;1-287;1-304;1-200;1-304
17390	1-232;1-219
17391	1-451;1-462;1-456;1-422;1-463;16-458;27-464;31-450;31-182;31-437;31-450;31-450;31-435;33-464;33-453;33-334;33-456;33-412;33-455;34-334;34-451;38-459;38-464;40-213;40-450;40-466;40-462;40-455;40-450;40-432;40-450;40-453;40-445;40-454;40-458;40-256;40-434;40-297;40-438;40-457;40-450;40-448;40-448;40-450;40-449;40-117;40-450;40-311;40-450;40-432;40-457;40-448;40-450;40-450;40-438;40-465;40-289;40-449;40-453;40-424;40-453;40-453;40-425;40-453;40-453;40-457;40-450;40-467;40-453;40-449;40-425;40-449;40-439;40-431;40-437;40-444;40-421;40-457;40-465;40-459;40-414;40-429;41-450;43-299;43-431;43-436;43-450;43-431;43-450;43-450;43-450
17392	1-78;1-297;1-300;1-293
17394	1-579;1-453
17396	1-464;1-375;1-371
17397	1-201;1-181
17398	1-453;1-383;1-457
17399	1-471;1-478;1-509;1-489;1-470;1-438;1-489;1-478;1-500;1-408;1-522;1-500;1-463;1-493;1-452;1-451;1-426;1-530;1-194;1-208;1-511
17400	1-456;1-273;1-493;1-459
17401	1-353;1-560;1-459;1-483;1-439
17402	1-462;1-491;28-439;28-480;28-270;30-381;446-741
17403	1-404;1-270;1-412
17404	1-272;1-285;1-285;1-240;1-281
17405	1-261;1-286;1-398
17407	1-117;1-174;1-173;1-173;1-173;1-173
17408	1-227;1-440;1-432;1-355
17409	1-160;1-547
17410	1-237;26-473
17411	1-452;32-430;32-388

Seq Id No.	Positions of biological 5'ESTs
17412	1-237;1-238;1-238;1-234;1-238;1-237;1-227;1-224;1-235;1-238;1-240;1-228;1-240;1-194;1-238;1-238;1-228;1-238;1-239;1-238;1-238;1-234;1-238;1-238;1-221;1-89;1-238;1-238;1-224;1-238;1-201;1-122;1-239;1-236;1-104;1-237;1-238;1-238;1-223;1-232;1-238;1-237;1-237;1-229;1-237;1-238;1-240;1-231;1-238;1-238;1-237;1-237;1-238;1-240;1-238;1-202;1-226;1-238;1-233
17424	1-504;1-481;1-381
17425	1-496;1-578
17426	1-432;1-343
17427	1-380;5-399
17428	1-481;1-340;1-496
17429	1-137;17-249;51-198;51-160
17430	1-220;1-337;1-145
17431	1-390;1-389;1-391
17432	1-255;1-427;1-307
17433	1-391;1-385;1-390
17434	1-53;1-51;1-82
17435	1-424;1-448
17437	1-497;20-151;20-431
17438	1-479;1-507
17440	1-292;1-214;1-383
17441	1-404;11-402
17442	29-128;29-130;29-129;30-113;30-125;30-131
17443	1-86;3-349
17445	1-465;1-398;1-448;1-471;1-454
17456	1-346;1-317
17458	1-432;1-509;1-596;1-470;1-499;1-516;1-514
17459	1-316;4-302;4-356;4-440;4-346;4-241;4-350;4-478;4-355;4-374
17460	1-466;47-362;50-287;50-396;50-401;50-392;50-420;50-402;50-348
17461	1-454;1-63
17462	1-364;1-359;1-358;1-359
17463	1-423;1-429;1-429;1-329;1-477
17464	1-197;1-468;1-470;1-474;1-437;1-447;1-144;1-489;1-473;1-495;373-848;373-844;373-824;373-835;373-874
17468	1-169;1-423;1-521
17469	1-356;20-346
17471	1-550;1-349
17472	1-97;1-113
17473	1-231;1-244;1-246;1-244
17474	1-440;1-233
17476	1-281;1-318;1-318

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17477	1-67;1-67;1-64;1-64;1-65;1-67;1-64;1-65;1-67;1-67;1-65;1-67;1-65;1-64;1-65;1-67;1-67;1-67;1-65;1-65;1-64;1-64;1-65;1-65;1-65;1-65;1-64
17479	1-486;1-459;1-536;1-419
17481	1-503;1-416;1-496;1-504;24-523;34-367
17482	1-415;5-466;34-367
17484	1-401;1-452;1-441;1-299;1-420;1-491;1-415
17487	1-415;1-415
17488	1-482;2-385;2-480;2-482;2-416;2-252;2-389;2-402;2-392;2-428;2-154;2-417;3-486;3-513;3-521;3-518;3-384;3-401;3-485;19-474;19-481;23-303;23-460;23-536;23-394;23-612;23-382;23-512;29-482;29-413;29-475;29-550;29-499;29-538;33-549;33-521;33-511;33-463
17489	1-399;1-428;1-432
17492	1-375;226-379
17496	1-468;1-474;1-475;1-466;1-460;1-483;1-476
17498	1-521;115-496
17500	1-89;1-92
17504	1-492;1-442
17505	1-63;1-63
17506	1-90;1-91;1-91;1-91;1-92;1-92;1-90;1-91;1-91;1-91;1-91;1-92;4-92
17507	1-459;22-406;26-467;35-517;50-530;50-469;50-523;50-470
17508	1-245;1-224;14-232;25-446
17509	1-514;1-474
17511	1-522;1-347;1-445
17512	1-266;1-383;1-546;1-474;1-546;1-282
17513	1-478;1-483;2-251
17514	1-415;1-172
17515	1-440;1-113;1-474;1-490
17517	1-492;1-433;1-486
17518	1-421;1-578
17519	1-484;1-512
17521	1-326;1-355;1-325;1-401;1-372;1-333;1-384;1-333;1-326;1-354;1-379;1-326;1-371;1-278;1-149;1-315;1-326;1-354;5-364;5-384;336-566
17522	1-326;1-325;1-401;1-372;1-355;1-384;1-333;1-326;1-354;1-333;1-379;1-326;1-371;1-278;1-149;1-561;1-315;1-354;1-326;5-364;5-384
17523	1-415;1-156
17524	1-458;1-156
17525	1-541;127-580
17526	1-503;1-318;1-514
17528	1-209;1-133
17529	1-228;1-168;1-381
17530	1-423;1-365;1-404;1-412;1-414;1-423;1-417;251-423;251-423;251-423;251-407;251-423;251-423;251-423;251-412;251-423;251-423;251-425;251-423;251-423;251-411;251-421;251-407;251-346;251-373;251-372;251-372;251-401;251-423;251-423;251-407;251-374;251-424;251-381;251-401;251-412;251-423;251-393;251-408;251-423;251-423;251-373;251-423;251-381;251-407;251-423;251-401;251-381;251-422;251-423;251-388;251-372;251-423;251-423;251-372;251-406;251-423;251-407;251-412;251-423;251-422;251-406;251-410;251-423;251-396;251-423;251-423;251-418;251-423;251-411;251-416;251-412;251-423;251-423;251-423;251-400;251-423;251-372;251-387;251-423;251-423;251-364;251-356;251-423;251-423;251-423;251-412;251-423;251-422;251-397;251-423;251-412;251-423;251-423;251-423;251-423;251-410;251-421
17531	1-387;1-449
17532	1-218;1-236;1-225
17533	1-319;1-364;1-387;1-464;1-458;1-319;1-464;1-387;1-458;1-464;1-452;1-290;1-376;1-416;1-517;1-387;1-382
17534	1-485;1-470
17535	1-178;1-243
17536	1-352;1-291
17537	1-476;1-460;1-311;87-589;87-536
17538	1-475;1-459;1-310;1-483
17539	1-468;1-500;1-544
17540	1-394;1-393
17541	1-410;1-342;1-419;1-413;1-420;1-390;1-419;1-416;1-341;1-402;1-137;1-252;1-420;1-360;1-145;1-424;1-342;1-402;1-421;1-390;1-421;1-419;1-414;1-354;1-326;1-384;1-421;1-380;1-421;1-385;1-419;1-410;1-417;1-360;1-388;1-416;1-381;1-410;1-390;1-418;1-145;1-419;1-419;1-421;1-406;1-413;1-413;1-409;1-420;1-416;1-420;1-422;1-421;1-421;1-70;1-326;1-418;1-410;1-423;1-352;1-386;1-183;1-404;1-418;1-413;1-406;1-411;1-424;1-388;1-408;1-413;1-413;1-421;1-91;1-413;1-421;1-360;1-419;1-298;1-405;4-224;4-224;4-224;4-225;4-225;4-225;4-225;4-225;4-225;4-224
17542	1-481;1-347
17543	1-299;1-368;1-400
17544	1-468;1-437;1-430

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17545	1-177;1-257
17546	1-460;1-470;1-476;1-502;1-481;1-480;1-487;1-415;1-452;1-466;1-482
17549	1-405;1-120
17550	1-405;1-460;1-354
17551	1-393;1-279
17552	1-165;3-165
17553	1-432;1-344;1-387
17555	1-315;2-378
17560	1-494;282-705;282-781;282-777;282-694;282-822;282-769;282-820;282-785;282-670;282-467
17561	1-424;1-424;1-424;1-424;1-424
17562	1-344;1-433;1-354
17563	1-249;1-260;1-260
17564	1-427;1-435;86-409
17565	1-255;1-264;1-280;1-284;1-255;1-243;1-280;1-229;1-281;1-255;1-281;1-281;1-280;1-284;1-192;1-255;1-255;1-255;1-255;1-255;1-280;1-255;1-228;1-264;1-255;1-238;1-280;1-284;1-264;1-284;1-280;1-255;1-264;1-280;1-280;1-255;1-222;1-280;1-264;1-281;1-280;1-264;1-280;2-280
17567	1-304;1-325
17568	1-136;1-442
17569	1-535;283-627;289-628
17570	1-411;1-337;1-411
17571	1-383;1-426;1-474;1-389;4-410;4-466;8-454;8-503;40-547;40-396;40-264;40-501;40-455
17572	1-269;1-348;1-369;1-138;1-270;1-440;3-330;3-368;3-381;14-225;17-411;30-425;30-421;31-363;31-380;31-423;31-443;32-431;32-428;32-443;32-385;32-433;32-425;32-404;32-383;32-437;32-425;32-373;32-146;32-428;32-437;32-374;32-144;32-380;32-417;32-422;32-431;32-441;32-431;32-390;32-435;32-307;32-423;32-421;32-428;32-413;32-433;32-395;32-413;32-431;32-426;32-428;32-419;32-441;32-430;32-225;32-443;32-123;32-416;32-427;32-427;32-386;32-220;32-359;32-437;32-91;32-430;32-433;32-431;32-431;32-430;32-367;32-424;33-339;33-431;33-421;33-383;33-442;33-432;33-374;33-348;33-294;33-441;33-227;33-430;33-414;33-127;33-440;33-406;33-328;33-388;33-421;33-395;33-225;33-348;33-316;33-193;33-421;33-384;33-440;33-365;33-433;33-430;33-346;33-410;33-439;33-419;33-441;33-441;33-431;33-436;33-425;33-409;33-145;33-121;33-412;33-294;33-440;33-426;33-357;33-131;33-414;33-404;33-433;33-395;33-403;33-394;33-413;33-121;33-439;33-434;33-332;33-414;33-430;33-433;33-333;33-372;33-442;33-441;33-315;33-370;33-421;33-442;33-425;33-440;33-348;33-346;33-42
17574	1-425;1-482;1-566;485-939;485-913;485-1010;718-1157
17575	1-224;1-228;1-228;1-218
17576	1-421;1-372;1-396
17577	1-476;1-471;1-407;1-471;1-479;1-554;1-275;1-139
17578	1-73;1-183;1-174;1-112
17579	1-101;1-62;1-58;10-96;10-105;10-253;10-83
17580	1-306;1-176;2-184;13-294;31-184;31-184;31-166;31-184;31-132;31-162;31-267;31-367;31-261;31-184;31-184;31-184;31-300;31-184;31-319;31-184;31-184;31-246;31-184;31-184;31-182;31-184;31-184;31-184;31-184;31-184;31-184;31-184;31-184;31-246;31-158;31-184;31-183;31-88;31-184;31-308;31-184;31-246;36-182;39-184;39-349;39-305;39-184;39-184;39-213;39-363;39-368;39-179;39-357;39-159;39-358;39-184;39-246;39-185;39-184;39-246;39-170;39-358;39-184;39-184;39-307;39-332;39-127;39-184;39-320;39-258;39-307;39-184;39-305;39-184;39-112;39-184;39-175;46-246
17581	1-425;1-482;1-556

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17582	1-224;1-311
17586	1-379;1-379
17587	1-472;1-454
17588	1-460;1-480;1-480
17591	1-366;1-104;1-478
17592	1-475;1-422;1-444;1-410;1-447
17593	1-472;40-323
17595	1-356;1-441;1-454;1-503
17596	1-363;18-74;18-73;18-439;85-139;85-139
17597	1-412;19-70
17599	1-639;1-491
17600	1-468;1-449;1-487;1-460
17601	1-404;1-425
17602	1-329;1-326;1-327;1-326;1-329;1-329
17603	1-92;1-92;1-92;1-90;1-92;1-92;1-92;1-92
17604	1-352;1-120;1-339
17605	1-422;1-419;1-221;1-435
17606	1-504;1-454
17613	1-499;1-504
17614	1-442;1-382
17615	1-165;1-169
17616	1-69;1-416;1-458;1-92;1-131
17617	1-398;1-399;1-397;1-390;1-399;1-391;1-390;1-396;1-397;1-391
17618	1-476;1-367
17619	1-277;1-277;1-277;1-277;1-259;1-277;1-277
17620	1-137;1-462
17621	1-546;1-410;1-536;10-493;10-277;10-597
17627	1-367;1-358
17628	1-416;190-557;190-700
17632	1-140;1-80;1-140;1-140;1-145;1-140
17633	1-479;1-485;1-475;1-484;1-495;1-457;1-488;1-457;1-509;1-466;1-484;1-487;1-492;1-481;1-457
17634	1-444;1-471
17636	1-368;31-461
17638	1-339;1-488;1-412;1-518;1-471;1-461;1-213;1-490;1-452;1-492;1-485;1-477;1-415;1-473;1-477;1-475;1-406;1-485;1-500;1-207;1-484;1-156;1-345;1-485;1-438;1-395;1-480;1-485;1-470
17639	1-358;1-275;1-405;1-464;1-502;1-441;1-534
17640	1-367;1-521;1-618;1-521;1-434;1-487;1-517;1-487;1-501;1-667;1-527;1-511;1-537;1-415;1-199;1-446;1-441;1-497;1-224;1-317;1-508;1-508;1-525;1-452
17641	1-93;1-351
17642	1-459;1-433
17643	1-440;1-78;1-448;1-474;1-515;1-508;1-487
17644	1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-65;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-65;1-64;1-64;1-64;1-66;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64;1-64;1-66;1-64;1-64;1-64;1-64
17646	1-537;1-506;1-337;1-484
17649	1-62;2-116;2-131;2-98;2-134;2-135;2-128;2-112;79-138;79-131;79-140;79-137;79-139;79-138
17650	1-478;1-482;1-491;1-354;92-593
17651	1-410;1-394;1-511;1-317;1-313;1-319;1-478;1-478;1-473;1-316;1-173;1-319;1-511;1-158;1-316;11-393;47-390;100-604;279-544
17652	1-323;2-323;2-323;2-333;2-329;2-71;2-323;2-323;2-314;2-322;2-321;2-333;2-323;2-323;2-304;2-313;2-304;2-323;2-304;2-323;2-323;2-323;2-320;2-323;2-280;2-252;2-322;2-321;2-323;2-323;2-323;2-322;2-324;2-310;2-322;2-324;2-323;2-333;2-323;2-324;2-321;2-322;2-310;2-323;2-323
17653	1-70;1-98
17656	1-412;1-447;1-487;1-446;1-354;1-438;1-414;1-447;1-472;1-459;1-446
17657	1-163;1-120;1-170;1-123;1-162;1-111;1-153;1-170;1-162
17658	1-453;1-493;1-511;1-336;1-477;1-429
17659	1-475;1-461
17660	1-314;1-305;1-246
17661	1-400;21-243
17662	1-443;1-71

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17665	1-200;1-200;1-199
17666	1-461;1-509
17667	1-472;1-483
17668	1-416;5-248
17669	1-251;1-247;1-255
17671	1-472;1-493;1-478
17673	1-485;1-440;1-420;1-482;1-449;1-467;1-499;1-216;1-481;1-368;1-270;1-500;1-499;1-473
17674	1-485;1-216;1-440;1-481;1-420;1-368;1-482;1-495;1-270;1-449;1-473;1-467
17675	1-274;6-435
17676	1-475;1-286
17677	1-217;10-116
17678	1-306;1-306;1-268;1-293;1-306;1-307
17679	1-547;1-462;1-419;1-217;1-455;1-464;1-490;1-430;1-464
17680	1-329;1-327;1-433
17681	1-449;1-100;1-497;1-483;1-476
17682	1-449;1-100;1-483;1-510;1-476
17683	1-103;1-160;1-115;1-100;1-112;1-151;1-81
17685	1-339;1-339;69-410
17686	1-216;1-220
17688	1-378;1-392;1-491;1-400
17689	1-476;1-275;1-393
17692	1-429;1-447
17693	1-426;1-446
17694	1-384;46-386
17695	1-428;1-295
17697	1-213;1-249;1-241
17698	1-213;4-245
17700	1-531;1-504;1-484
17702	1-448;18-219;20-105;23-231
17703	1-265;7-387;8-217
17704	1-290;1-443
17705	1-474;1-474;1-371;1-402
17706	1-132;1-140;1-143;1-143;1-143;1-143;1-132;1-143;1-143;1-140;1-143;1-140;1-143;1-143;1-143;1-141;1-143;1-140;1-143;1-140;1-140;1-140;1-143;1-143;1-143;1-143;1-140;1-143;1-132;1-143;1-143
17707	1-460;1-465;1-536;1-454;2-305
17710	1-218;1-229;1-229;1-229;1-222;1-218;1-214;1-229;1-216;1-229;1-228;1-230;1-216;1-212;1-218;1-216;1-230;1-229;1-229;1-174;1-229;1-229;1-194;1-215;1-230;1-229;1-229;1-229;1-229;1-229;1-229;1-229;1-226;1-199;1-163;1-214;1-229;1-221;1-228;1-229;1-229;1-229;1-229;1-219;1-229;1-229;1-229;1-218;1-217
17711	1-489;1-398
17712	1-360;1-484;1-460;1-440;1-322;1-539;1-438;1-296;1-326;1-442;1-424;1-137;1-372;1-419;1-422;1-566;1-484;1-105;1-438;1-508;1-275;1-277;1-438;1-438;1-397
17714	1-477;1-483
17715	1-71;1-173;1-71;1-71;1-223;1-71;2-104
17716	1-71;1-173;1-71;1-71;1-71;2-104;5-536
17717	1-378;1-329;1-420;1-412;1-426;2-420;3-428;3-439;3-437;3-412;3-436;3-438;3-425;3-420;3-303;3-439;3-436;3-422;3-405;3-217;3-361;3-424;3-424;3-426;3-426;3-428;3-422;3-417;3-437;5-435;5-426;5-434;5-330;5-435;5-431;13-428;13-417;14-418;14-307;14-326;14-424;14-421;14-420;14-421;14-412;14-436;14-426;15-438;15-435;15-88;15-328;15-425;15-435;15-88;15-436;15-421;15-88;15-88;16-437;16-426;16-438;16-418;16-437;16-420;16-438;16-417;16-121;16-440;16-421;16-424;16-432;16-396;16-437;16-420;16-423;16-434;16-440;16-335;16-422;16-428;16-438;17-403;20-393;20-412;20-420;20-423;20-437;20-424;20-427;20-437;20-414;20-436;20-420;20-439;20-424;20-423;20-438;20-436;20-437;20-424;20-424;20-440;20-437;20-420;20-422;20-426
17719	1-241;1-86;7-121;7-473
17720	1-265;1-265;1-265;1-252;1-255;1-265;1-248;1-265
17721	1-448;1-424
17722	1-213;1-69;1-265;1-350;1-213;1-306;1-220;1-266;1-207;1-327;1-398;1-208;1-319;1-288;1-176;1-332;1-213;1-196
17723	1-349;23-405
17724	1-436;1-470;1-499
17725	1-294;1-497;1-490
17726	1-60;1-60;1-60;1-60;1-60;1-58;1-60
17728	1-338;1-463;1-366;1-463;1-311;1-490;1-381;1-489;1-405;1-298;1-352;1-393
17731	1-432;1-438
17733	1-129;1-122;1-123
17734	1-486;1-470

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17735	1-403;1-477;1-410;1-498
17736	1-64;1-68;1-64;1-64
17737	1-382;1-210
17738	1-512;1-322;1-483;1-455
17739	1-494;1-516
17740	1-453;1-491
17741	1-319;1-166;1-362
17742	1-430;1-402;1-502;1-462;1-490;1-392;1-452;1-213;1-262;28-408
17743	1-102;1-102;1-102;1-102;1-102;1-102;1-102;1-102
17744	1-116;1-149
17745	1-393;1-432
17746	1-459;1-440
17747	1-97;1-93;1-93;1-93;1-93;1-93;1-93;1-93;1-97;1-93;1-93;1-93;1-97;1-97;1-97;1-97;1-93;1-93;1-93;1-93;1-97
17748	1-264;1-388;1-378;1-395;1-386;1-400;1-400;1-399;1-401;1-394;1-401;1-399;1-400;1-395;1-400;1-376;1-400;1-400;1-401;1-374;1-355;1-393;1-400;1-401;1-386;1-240;1-395;1-343;1-400;1-377;1-187;1-399;1-387;1-391
17749	1-393;1-106;1-201;1-281;1-462;1-281;1-230;1-396;1-444;2-203
17750	1-190;1-410
17751	1-120;1-495;1-493;1-462;1-477
17752	1-131;1-129;1-131
17758	1-502;1-477;1-468;1-380;1-443;1-411;1-397;1-374;1-517;1-516;2-437
17759	1-236;1-236
17760	1-448;1-495
17761	1-196;35-522
17764	1-479;1-309;1-405;1-446;1-416;1-501
17768	1-431;1-103;1-111;1-115;1-331;2-115
17769	1-510;1-167
17770	1-472;1-459;1-491;1-451
17771	1-455;1-452
17772	1-418;1-285
17773	1-486;1-470;1-411
17774	1-399;1-355;1-390;1-412;1-362;1-387;1-390;1-390;1-389;1-291;1-400;1-413;1-390;1-399;1-393;1-398;1-306;1-399;1-399;1-387;1-399;1-390;1-347
17775	1-414;55-229;55-395;55-379;55-196
17776	1-282;1-285;1-266;1-282;1-282;1-175;1-282;1-271;1-281;1-279;1-269
17777	1-123;1-123;1-123
17778	1-421;1-449;1-458
17779	1-463;1-498
17780	1-419;5-69;5-446

Seq Id No.	Positions of biological 5'ESTs
17781	1-337;1-348
17782	1-392;1-390
17783	1-414;1-469;1-469
17784	1-196;1-212
17785	1-481;1-388
17786	1-441;2-251;2-51;4-187
17787	1-428;1-483
17789	1-553;1-455;1-490;1-491
17790	1-414;1-424
17791	1-451;4-358;11-501
17793	1-303;1-344;1-517;1-471
17794	1-253;1-85
17795	1-419;43-294;91-152
17796	1-349;1-347;1-360;1-336;1-347;1-357;1-343;1-347;1-347;1-360;1-339;1-360;1-346;1-347;1-360;1-281;1-360;1-354;1-353;1-360;1-344;1-360;1-360;1-360;1-180;1-347;1-360;1-360;1-347;1-360;1-345;1-360;1-360;1-340;1-359;1-360;1-360;1-349;1-360;1-347;1-360;1-364;1-362;1-345;1-326;1-346;1-360;1-347;1-351;1-360;1-364;1-360;1-360;1-358;1-347;1-347;1-360;1-359;1-360;1-360;1-359;1-360
17797	1-399;1-504
17799	1-434;1-437;1-192;1-449;1-490;1-525;1-402;1-490;1-446;1-509;1-490;1-466;1-468;1-419
17801	1-234;1-385;1-506;4-354
17802	1-459;1-395
17803	1-410;1-374;1-405;1-395;1-380;1-408;1-411;1-391;1-321;1-385;1-409;1-413;1-369;1-396;1-223;1-395;1-398;1-413
17804	1-477;1-425
17805	1-410;1-426
17806	1-292;1-365
17807	1-301;1-309;1-314;1-284
17808	1-386;4-432
17809	1-324;1-441
17810	1-285;1-374
17811	1-417;1-60;1-416;1-417;1-162;1-365;1-419;1-435;1-396;1-417;1-417
17813	1-429;1-434
17815	1-485;1-443;1-412;1-507;1-492;1-469;1-573
17817	1-392;1-269;1-485;1-416;1-475;1-495;1-109;1-482;5-287;5-82
17820	1-483;1-397;1-480;1-505;1-493;1-296;1-424;1-442;1-502;1-317;1-491;1-479;1-485;1-306;1-542;1-507;1-466;1-441;1-415;1-443;1-480;1-491;1-519;1-474;1-315;1-109;1-411;1-472

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17821	1-138;1-269
17825	1-282;1-282;1-282
17827	1-407;1-444;1-235
17828	1-329;32-178;32-111;32-178;32-108
17829	1-464;1-415;50-449
17830	1-314;127-394
17831	1-333;1-309;1-388
17832	1-396;1-392
17833	1-428;2-427;34-445
17834	1-401;10-374;10-227;10-90;10-515
17835	1-453;1-452;1-449;1-452
17836	1-377;1-342;1-365;1-373
17837	1-290;1-306;1-308;1-308;1-307;1-295;1-305
17838	1-451;1-419;1-337;1-450
17839	1-381;1-349
17840	1-421;38-400
17841	1-416;1-53
17842	1-428;1-428
17843	1-468;1-472;1-490;1-460;1-543
17844	1-420;1-432
17845	1-257;1-257;1-257;1-179;1-257;1-257;1-257;1-185;1-254;1-257;1-257;1-257
17846	1-383;29-387
17847	1-343;1-343;1-339;1-343;1-313;1-343;1-343;1-343;1-343;1-343;1-343;1-314;2-299
17848	1-514;1-608
17849	1-269;1-245
17850	1-346;1-335;1-319;1-119;1-333;1-347;1-346;1-327;1-346;1-333;1-330;1-211;1-345;1-330;1-341;1-330;1-334;1-332;1-347;1-346;1-327;1-322;1-347;1-320;1-346;1-326;1-330;1-178;1-326;1-335;1-330;1-337;1-336;1-328;2-340;2-196;2-330;2-335;2-347;2-335;2-117;2-327;2-323;7-320;7-321
17852	1-407;153-585
17853	1-541;1-435;1-561
17855	1-180;1-181;1-181;1-182
17856	1-366;1-436
17857	1-377;1-382;1-405;105-368;157-378
17859	1-181;1-379;1-397;1-267
17862	1-414;1-283
17865	1-401;5-303
17869	1-349;1-344;1-345
17870	1-122;1-87;1-113;1-89
17873	1-433;1-350;1-355;1-470;1-425;1-463
17874	1-307;1-366;1-378;1-379;1-333;1-343;1-379
17876	1-442;1-430
17877	1-201;1-201;1-201
17878	1-512;1-496
17879	1-411;1-408;1-420;1-179;1-420;1-411;1-411;1-420;1-420;1-405;1-411;1-149;1-411;1-358;1-407;1-346;1-334
17881	1-378;1-294;24-493;36-423;39-492;39-408;39-481;39-482;59-448;59-479;59-477;60-481;60-467;60-488;60-435;60-482;60-478;60-494;60-492;60-504;60-200;60-501;60-469;60-483;60-410;60-490;60-478;60-501;60-388;60-358;60-477;60-481;60-487;61-486;61-493;61-480;61-203;61-501;61-451;61-493;61-501;61-472;61-494;61-495;61-422;61-445;61-482;61-444;61-500;61-493;61-472;61-496;61-468;61-492;61-480;61-485;61-469;61-438;61-487;61-485;61-477;61-483;61-432;61-476;61-435;61-504;61-501;61-495;61-406;61-503;61-482;61-503;61-356;61-278;61-475;61-478;61-493;61-430;61-501;61-493;61-492;61-489;61-497;61-496;61-482;61-484;61-473;61-473;61-459;61-503;61-478;61-314;61-306;61-481;61-481;61-450;61-493;61-434;61-504;61-488;61-425;61-499;61-493;61-456;61-358;61-501;61-499;61-448;61-478;61-445;61-480;61-499;61-483;61-493;61-478;61-367;61-493;61-476;61-484;61-373;61-480;61-355;61-496;61-424;63-470;65-351;65-482;65-469;65-416;65-486;65-482;70-485;75-491;75-480;82-263;82-442;82-494;82-479;82-482;96-487;198-469;361-493
17882	1-294;60-200;61-203;61-278;61-314;61-306;75-532;75-565;75-636;82-263

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17883	1-438;1-427;2-354;2-144;2-425;2-379;2-413;2-431;2-421;2-434;3-425;3-422;3-422;3-302;3-426;4-432;4-411;4-458;4-445;4-449;4-332;4-445;4-392;4-423;4-463;4-436;4-421;5-389;5-374;5-437;5-388;5-424;5-147;5-416;5-426;5-395;5-437;5-300;5-445;5-416;5-440;5-439;5-421;5-444;5-366;5-430;5-431;5-437;5-440;5-412;5-424;5-459;5-429;5-413;5-382;5-436;5-429;5-451;5-445;5-376;5-379;5-420;5-350;5-439;5-449;5-447;5-426;5-447;5-394;5-427;5-419;5-422;5-437;5-445;5-447;5-437;5-436;5-438;5-441;5-417;5-426;5-472;5-428;5-433;5-417;5-403;5-444;5-422;5-258;5-250;5-425;5-425;5-222;5-378;5-437;5-449;5-424;5-422;5-443;5-437;5-400;5-432;5-420;5-443;5-302;5-392;5-389;5-428;5-437;5-427;5-422;5-311;5-437;5-443;5-369;5-368;5-440;5-299;5-444;5-424;5-317;7-414;9-430;9-360;9-295;9-413;9-426;9-426;14-429;19-424;19-435;26-386;26-207;26-438;26-423;26-426;40-431;142-413;305-437
17887	1-376;1-433;1-433;1-422;1-422;1-427;1-433;1-422;3-393
17888	1-482;1-486;1-485;1-494
17889	1-473;1-478
17890	1-462;1-460
17891	1-60;1-93;1-148;1-132;1-183
17892	1-426;23-143;42-270;44-245;45-284;60-204;60-193
17893	1-399;1-391
17894	1-510;1-80;1-447;1-519
17896	1-353;1-348;1-352;1-424;1-352;1-352;1-348;1-367;1-353;1-352;1-422;1-340;1-407;1-232;1-354
17897	1-354;1-261;1-448;1-289;15-435;29-413
17898	1-424;31-484;31-398
17899	1-353;1-501;1-361;1-362
17900	1-288;1-288;1-288
17901	1-402;56-198
17902	1-143;1-380
17903	1-360;1-483;1-417;1-342
17904	1-258;1-248
17905	1-237;10-268;25-259;25-296;25-348;25-453;25-131;25-117
17911	1-93;1-93;1-93;1-93
17912	1-461;1-487;1-500;1-369
17913	1-69;1-102;1-113;1-114;1-113;1-93;1-114;1-114;1-113;1-117;1-113;1-114;1-113;1-112;1-117;1-113;1-113;1-114;1-114;1-113;1-113;1-114;1-114;1-113;1-113;1-114;1-114;1-113;1-113;1-113;1-113;1-113;1-114;1-106;1-113;1-114;1-114;1-114;1-113;1-113;1-100;1-114;1-114;1-114;1-106;1-100;1-114;1-113;1-113;1-113;1-113;1-114;1-114;1-114;1-114;1-113;1-114;1-113;1-95;1-113;1-113;1-114;1-114;1-114;1-114;1-113;1-114;1-113;1-113;1-114;1-114;1-114;1-100;1-114;1-113;1-113;1-103;1-114;1-114;1-114;1-113;1-94;1-114;1-100;1-112;1-114;1-114;1-105;1-113;1-100;1-114;1-114;1-114;1-114;1-113;1-114;1-113;1-114;1-94;1-113;1-113;1-114;1-100;1-114;1-114;1-114;1-114;1-113;1-114;1-114;1-114;1-114;1-79;1-114;1-114;1-101;1-113;1-113;1-114;1-113;1-113;1-114;1-114;1-100;1-108;1-113;1-117;1-113;1-104;1-114;1-113;1-113;1-114;1-113;1-114;1-114;1-113;1-113;1-113;1-114;1-114;1-113;1-114;1-114;1-114;1-113;1-114;1-114;1-114;1-114;1-114;1-114;1-114;1-113;1-113;1-100;1-113;1-113;1-117;1-113;1-102;1-114;1-114;1-113;1-114;1-113;1-114;1-104;1-112;1-96;1-114
17915	1-353;4-481
17916	1-252;1-476;1-486;1-546
17917	1-252;57-512
17919	1-146;1-105;1-201;1-176;1-207;1-206;1-197
17950	1-441;1-460;1-465;1-520;1-385;1-371;1-461
17951	1-411;1-444
17952	1-446;1-445;1-415;1-459;1-479;1-473;1-447;1-489
17953	1-495;1-383
17954	1-437;1-258
17955	1-538;1-490
17956	1-215;1-214;1-214;1-219;1-213;1-214
17957	1-487;1-392;1-338
17958	1-395;1-298;1-400
17959	1-440;1-409
17960	1-478;1-401;1-459;1-445;1-360;1-457;1-410
17961	1-427;1-59
17962	1-385;1-376
17967	1-437;1-429;1-416;1-431;1-414;1-429;1-468;1-226
17968	1-483;1-519
17969	1-358;1-74;1-412

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
17970	1-226;1-232;1-226;1-225;1-226;1-226;1-232;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-232;1-227;1-226;1-181;1-205;1-226;1-226;1-226;1-220;1-226;1-226;1-226;1-226;1-204;1-226;1-227;1-226;1-214;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-232;1-226;1-226;1-228;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-205;1-226;1-226;1-226;1-226;1-226;1-226;1-223;1-226;1-218;1-226;1-226;1-226;1-226;1-214;1-226;1-226;1-226;1-213;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-155;1-232;1-226;1-232;1-215;1-226;1-232;1-226;1-226;1-226;1-226;1-226;1-232;1-225;1-226;1-226;1-225;1-226;1-226;1-204;1-213;1-226;1-226;1-226;1-192;1-226;1-167;1-226;1-232;1-226;1-226;1-227;1-227;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-186;1-226;1-226;1-226;1-226;1-226;1-226;1-226;1-213;1-226;1-207;1-226;1-213;1-184;1-196;1-226;1-226;1-226;1-232;1-226;1-223;1-226;1-226;1-226;1-226;1-213;1-221;1-226;1-226;1-226;1-226;1-226;1-226;1-195;1-223;1-226;1-226;1-156;1-227;1-226;1-226;1-226;1-226;1-225;1-215;1-226;1-22
17971	1-68;1-68;1-68;1-68
17972	1-336;1-326;3-138;3-137
17973	1-140;1-450;1-456;1-441;1-480;1-419;1-440;1-459;1-224;2-385;2-141;2-294;2-503;2-495;17-233;17-472;17-316;17-429
17974	1-221;1-137;2-382;2-138;2-291;2-472;17-230;17-313
17975	1-478;1-468
17976	1-445;1-437;1-420;1-446;1-480;1-381
17977	1-224;1-140;2-435;2-387;2-141;2-296;17-229;17-318
17978	1-361;1-355;1-383;1-427;1-381;1-371;1-348
17979	1-430;1-164;1-383;1-444;1-215;1-391;1-508
17980	1-382;1-315;6-181;21-483;21-370;21-266;21-510;21-504;21-384
17981	1-382;1-315;1-464;6-181;21-370;21-266;21-383
17982	1-442;1-426;1-404
17983	1-178;1-176;1-176;1-176;1-176;1-178;1-176;1-176;1-178;1-176;1-178;1-176;1-176;1-178;1-176;1-176;1-176;1-176;1-176;1-176;1-178
17984	1-388;66-517;66-532
17985	1-436;2-456;7-294
17986	1-62;1-50;1-63
17987	1-138;1-118
17988	1-273;1-281;1-289;1-304;1-304;1-304;1-292;1-304;1-292;1-291;1-186;1-173;1-292
17989	1-368;1-379;1-368;1-366;1-368;1-357;1-368;1-335;1-380;1-365;1-57;1-368;1-366;1-368;1-379;1-334;1-366;1-367;1-366;1-364;1-366;1-378;1-256;1-368;1-381;1-181
17990	1-116;5-133;5-212;100-208
17991	1-387;1-271;35-253
17992	1-343;1-346;1-419
17993	1-439;6-293
17994	1-443;1-421;1-469
17995	1-443;1-446;1-461
17996	1-352;1-232
17997	1-261;1-276;1-284;1-284;1-287;1-271
17999	1-317;1-295
18000	1-446;31-446;54-434;54-427;54-316
18006	1-322;1-181;1-307
18008	1-426;1-484
18009	1-426;1-472
18010	1-190;1-192;1-81;1-192;1-195;1-198;1-192;1-192;1-198;1-192;1-192;1-86;1-192;1-192;1-192;1-192
18011	1-456;1-497
18012	1-170;1-189
18013	1-375;1-365
18014	1-484;1-487;40-500;40-489
18015	1-136;1-484;1-469;1-455;1-132
18016	1-440;1-442;1-436;1-429
18017	1-54;1-71
18023	1-70;1-267
18024	1-71;15-505;15-434
18025	1-333;1-341;1-339;1-331
18026	1-451;1-298;1-415
18029	1-425;1-324;1-335
18031	1-345;1-476;1-521;1-393;1-422;1-515
18032	1-424;55-396;55-416
18033	1-474;1-456
18034	1-191;1-191
18035	1-206;1-205;1-205
18036	1-381;1-380;1-380;1-380;1-381
18037	1-208;1-111
18038	1-67;3-67
18039	1-145;1-145
18040	1-389;1-386
18041	1-241;1-245;1-241;1-241;1-242;1-242;1-221

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18044	1-91;35-85
18045	1-86;1-85;1-86
18046	1-231;1-433
18048	1-106;1-105
18049	1-316;1-304;1-318;1-317
18050	1-219;1-363;1-219;1-324;1-78;9-219;9-218;9-219;12-102;12-284;79-263
18052	1-58;1-334;1-82;1-454;1-416;1-447
18053	1-468;1-477
18055	1-73;1-74
18056	1-93;1-125
18057	1-167;1-166
18059	1-381;1-444;1-472;2-477;3-450;3-436
18060	1-453;1-488;1-487;63-552;63-537;63-529;63-525;63-515;63-528
18064	1-438;1-443
18067	1-375;1-393;1-392;1-393
18070	1-427;1-415
18073	1-482;59-257;59-145;68-373;68-518;68-386;68-441
18074	13-162;13-133;19-193;19-180;19-180;19-153;19-183;19-124;19-193;19-192;19-174;19-193;19-183;19-193;19-172;19-198;19-193;19-180;19-193;19-164;19-193;19-192;19-198;19-198;19-185;19-174;19-184;19-193;19-193;19-193;19-180;19-192;19-148;19-192;19-188;19-180;19-193
18077	1-208;1-208;1-304
18078	1-482;1-66
18079	1-83;1-83;1-83;1-88;1-83;1-88;1-57;1-83;1-88;1-83;1-83;1-88;1-83;1-88;1-88;1-88;1-88;1-88
18080	1-449;1-458
18081	1-279;1-453;1-503;1-512;1-423;1-243;1-321;1-485;1-241;1-296;1-369;1-512
18082	1-114;1-122;1-217
18083	1-425;1-475
18085	1-211;1-211;1-210;1-210;1-123;1-211;1-211;1-210;1-208;1-211;1-211;1-210;1-211;1-210;1-211;1-211;1-211;1-211;1-210;1-211;1-211;1-211;1-143;1-210;1-210;1-210;1-211;1-210;1-211;1-211;1-210;1-211;1-197;1-211;1-210;1-179;1-210;1-210;1-211;1-211;1-210;1-211;1-210;1-220;1-211;1-210;1-210;1-210;1-211;1-210;1-211;1-210;1-211;1-210;1-210;1-211;1-211;1-210;1-211;1-211;1-210;1-210;1-210;1-210;1-210;1-211;1-211;1-210;1-211;1-211;1-210;1-210;1-210;1-211;1-211;1-210;1-210;1-211;1-210;1-211;1-212;1-211;1-210;1-211
18086	1-456;11-396;11-397
18089	1-256;1-257;1-259;1-255;1-257;1-257;1-257
18090	1-86;1-87;1-87
18092	1-480;1-333
18093	1-373;1-426;1-385
18094	1-375;1-312;1-375;1-415;1-473;1-415;1-415
18095	1-367;1-345;1-448;1-327
18096	1-188;1-188;1-188;1-188;1-187;5-193
18097	1-188;1-189;1-189;1-189;1-70;1-189;1-189
18098	1-378;1-411
18099	1-78;1-103
18100	1-298;1-312;1-298
18102	1-63;1-56
18107	1-620;1-54
18108	1-505;399-824
18111	1-448;1-467;1-414;1-482;3-360
18112	1-416;1-424
18113	1-449;1-507
18115	1-497;1-395;1-495
18116	1-103;1-467;131-408
18119	1-426;1-471;1-421;1-125;4-436;4-509;4-461;4-467;4-473;4-401;4-457;4-369;4-451;10-407;10-334;10-489;10-462
18120	1-403;1-395
18121	1-364;1-376;1-423;1-234;1-422;1-368;1-493;1-442
18122	1-56;1-62
18123	1-347;1-166;1-366
18124	1-69;1-69;1-69;1-69;1-69;1-69;1-69;1-69
18125	1-372;1-368
18126	1-362;1-139;1-361;1-390;1-352;1-361;3-350;3-398;3-334;3-365;3-398;3-55;3-368;3-164;3-164;3-409;3-340;5-388;5-362;5-362;5-389;5-164;5-361;5-412;5-403;5-350;5-412;5-325;5-350;5-359;5-387;5-397;5-293;5-388;5-338;5-398;6-399;12-399;12-412;12-412;12-389;12-412;12-412;12-354;12-280;12-146;12-379
18127	1-488;1-380;1-466;1-436;1-366
18129	1-452;1-458;1-486

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18130	1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-192;1-192;1-190;1-190;1-190;1-190;1-190;1-190;1-66;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-192;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-190;1-192;1-190;1-192;1-190;1-190
18131	1-314;1-309
18132	1-405;1-202;1-420;1-433;1-280;1-420;1-444;1-510;1-489;1-401;2-502;18-454;18-485;18-505;18-329;18-490;18-450;18-499;19-519;19-405;19-434;46-442;58-319;91-493;111-447
18133	1-56;1-394;1-386;1-324
18134	1-65;1-68;1-65;1-68;1-68;1-65
18136	1-432;1-446
18138	1-263;1-368;1-410
18139	1-163;1-249;1-348;1-162;1-349;1-347;1-352;1-355;1-356;1-349
18173	1-331;1-326;1-328;1-329;1-327;1-330
18174	1-449;67-501;67-501;67-599;93-495;95-624;95-583;95-497;95-348;95-608;95-560;95-470;95-470;95-484;95-599;95-336;95-691;95-563;95-599;95-414;96-385;96-631;96-563;96-599;96-524;96-501;96-599;96-549;96-470;96-496;96-655;96-476;96-563;96-604;96-495;96-599;96-563;96-582;96-470;96-682;96-549;96-558;96-487;96-414;96-624;96-365;96-547;96-599;96-609;96-496;96-582;96-599;96-377;96-629;96-563;96-183;96-560;96-563;96-653;96-563;96-607;96-631;96-599;96-563;96-404;96-496;96-472;96-626;96-705;96-609;96-630;96-630;96-524;96-583;96-631;96-608;96-501;96-501;96-599;96-624;96-599;96-492;96-644;96-562;96-549;96-501;96-599;96-563;96-540;96-626;96-676;96-563;96-599;96-401;96-497;96-500;96-599;96-583;96-547;96-472;96-518;96-631;96-563;96-599;96-484;97-679;97-682;97-211;98-549;98-477;98-520;98-583;98-469;98-628;98-351;99-160;99-609;101-549
18177	1-325;17-118;30-169
18178	1-498;1-393;1-474;1-475;1-458;1-458;1-379;1-496;1-458
18181	1-439;3-494
18182	1-347;1-348;1-350;1-329;1-360;1-350;1-206;1-337;1-349;1-352;1-348;1-339;1-349;1-363;1-350;1-340;1-339;1-349;1-348;1-362;1-355;1-349
18186	1-189;1-189
18189	1-141;1-249;6-141
18190	1-472;1-414;1-432;1-492;1-467
18193	1-495;1-354
18195	1-264;1-264;1-252;1-266
18196	1-483;1-537;1-486;1-484;1-357;2-449
18199	1-512;1-220;1-416;368-420;368-510;368-516;369-435;369-426;369-476;369-462;369-488
18210	1-395;1-487;1-407;1-485
18212	1-429;1-364;1-442
18218	1-466;1-555
18219	1-449;1-466
18222	1-430;1-341
18223	1-408;1-470;1-479;1-347;1-459;1-482;1-503;1-385;1-377;1-443;1-353;1-505;1-489;1-479;1-356;1-452;1-417;1-476;1-347;1-463;1-466
18224	1-343;1-343;1-343;1-339
18225	1-306;50-306
18226	1-443;1-492;1-448;2-71;11-538
18227	1-457;9-474;43-602;59-492;59-641;59-462;59-525;59-411;59-569;59-448;59-534;60-545;60-550;60-581;60-624;60-512;60-542;60-458;60-570;60-288;60-488;60-387;60-449;60-431;60-519;60-503;60-129;60-562;60-445;60-624;60-528;60-538;60-526;60-535;60-625;60-587;60-540;60-560;60-563;60-639;60-550;60-536;61-549;61-497;61-510;61-282;61-561;61-561;61-497;62-462;62-531;62-571;64-624;67-406;69-562;69-571;69-543;69-516;71-550;71-519;71-624;92-601;99-624
18230	1-413;1-437
18231	1-376;1-395
18232	1-63;1-71
18235	1-418;1-345
18237	1-507;227-660
18238	1-251;1-457
18239	1-453;1-330;1-453
18240	1-247;1-163;1-293
18241	1-126;1-402
18242	1-126;1-413
18245	1-418;21-418
18247	1-131;1-103;1-94;1-150
18248	1-60;1-50;1-148;53-133

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18249	1-365;1-383
18251	1-581;2-480;2-474;2-501;2-123;2-470;2-513;2-417;2-514;2-327;2-447;2-360
18252	1-359;1-122;1-414;1-326
18253	1-429;1-118
18254	1-443;1-513
18257	1-295;26-438
18258	1-341;1-294;1-334;1-339;1-335;1-340
18259	1-496;1-386
18260	1-444;1-467
18261	1-279;1-348;1-433;1-437;1-577;1-497;1-349;1-321;1-235;1-413;1-324
18264	1-492;1-551
18265	1-507;1-501;1-422;1-319;1-513;1-460;1-478
18266	1-546;1-361;1-477;2-362;8-345;8-345;22-511
18270	1-270;1-249
18273	1-387;1-192
18274	1-169;1-121
18275	1-454;1-592;1-549
18277	1-204;1-204
18278	1-371;1-366;1-363
18280	1-386;1-392;1-359;1-397;1-382;1-397
18281	1-327;1-78;5-143
18282	1-438;1-435
18283	1-490;1-476;43-559;45-509;45-493;45-527;45-509;46-510;47-215
18284	1-339;1-354;1-363;1-354;1-345;1-349;1-361;1-346
18287	1-311;1-458
18288	1-408;80-433
18289	1-402;1-370;1-414;1-415;10-384;10-399;10-391;10-417;10-400;10-405;10-404;10-400;10-386;10-402;10-416;10-417;10-395;11-412;33-399;33-416;33-399;36-313;36-415;36-416;36-277;36-366;36-410;36-398;36-412;52-368;52-400;52-416;52-416;52-401;52-416;52-416;54-406;54-416;54-413;54-418;54-409;54-417;54-413;54-362;54-405;54-401;54-418;54-417;54-416;54-412;54-410;54-417
18294	1-75;1-383;1-400;1-389
18296	1-465;1-311
18297	1-341;1-426;1-376
18298	1-122;1-128
18300	1-474;1-494;1-481;1-474
18301	1-63;1-65;1-65;1-63;1-63;1-63;1-65;1-63;1-65;1-63;1-62;1-65;1-65;1-65;1-63;1-65;1-65;1-65;1-63;1-65;1-63;1-63;1-65;1-65;1-65;1-65;1-63;1-63;1-65

Seq Id No.	Positions of biological 5'ESTs
18303	1-417;1-519
18304	1-305;1-458;1-408;1-452;1-512;1-482;1-535
18305	1-401;1-335;1-512;1-412
18307	1-196;1-195
18308	1-402;1-502
18309	1-426;1-277
18310	1-487;12-462;12-474
18315	1-362;1-344;1-358
18316	1-472;1-345;1-357
18318	1-189;1-301
18319	1-510;1-184;84-590
18320	1-478;1-431
18321	1-146;1-154
18322	1-430;1-414;1-417;1-425;1-334;1-416;1-424;1-413;1-190;1-421;1-432;1-436;1-417;1-417;1-434;1-425;1-429;1-421;1-420;1-433;1-413;1-430;1-436;1-397;1-421
18323	1-517;1-476;1-471;1-497
18324	1-440;1-461
18325	1-398;1-399;1-382;1-92;1-393;1-146;1-399;1-399;1-399;1-399;1-311;1-399;1-400;1-388;1-400;1-399;1-400;1-400;1-390;1-382;1-375;1-399;1-402;1-399;1-384;1-401;1-383;1-396;1-388;1-400;1-400
18326	1-109;1-109
18327	1-118;1-136;1-136;1-139;1-125;1-122;1-136
18331	1-197;1-267;1-265;1-269;1-283;1-281;1-257;1-279;1-268;1-281;1-269;1-267;1-267;1-280;1-267;1-260;1-280;1-272;1-269;1-267;1-280;1-283;1-264;1-267;1-267;1-267;1-280;1-280;1-267;1-90;1-279;1-267;1-261;1-246;1-267
18335	1-82;1-473
18336	1-468;1-467
18337	1-552;1-386
18338	1-237;1-234;1-234;1-234
18339	1-490;40-129
18340	1-493;74-592;74-549
18342	1-52;1-53;1-70;1-66;1-72
18344	1-115;1-112;1-115;1-115;1-115
18345	1-247;1-478;1-437;1-445;1-438;1-452;1-465
18349	1-58;1-71;1-64
18350	1-544;1-455;1-372;1-375;1-454;1-473
18351	1-422;1-436;1-321;1-465;1-425
18352	1-464;3-420
18353	1-415;322-403;322-417

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18354	1-446;1-494;1-446;1-442;1-456;1-426;1-495;1-445;1-457;1-442;1-442;1-442;1-446
18357	1-165;1-133
18358	1-472;1-521
18360	1-404;1-398;1-377
18361	1-224;1-150;1-138
18362	1-307;25-135;27-150;27-154;27-265;28-272;31-143;31-184;31-184;31-291;31-184;31-92;31-101;31-256;31-167;31-184;31-167;31-143;32-92;32-156
18364	1-309;1-247;2-110;3-240;3-125;3-129;5-321;6-118;6-159;6-159;6-277;6-317;6-159;6-389;6-76;6-67;6-159;6-271;6-276;6-231;6-142;6-307;6-142;6-118;7-67;7-131;7-321;219-291
18365	1-309;1-247;2-110;3-240;3-125;3-129;6-118;6-382;6-159;6-159;6-277;6-315;6-276;6-159;6-76;6-67;6-159;6-307;6-271;6-231;6-142;6-380;6-377;6-142;6-118;7-67;7-131;219-291
18366	1-358;1-342;1-319;1-63;3-72;3-63;158-230
18372	1-239;1-285;1-284;1-261
18373	1-237;1-262;15-264;15-264;15-242;15-263;15-262;15-255;15-255;15-266;15-266;15-248;15-265;15-264;15-266;15-266;15-266;15-252;15-264;15-276;15-277;15-279;15-253;15-262;15-269;15-253
18377	1-112;2-116;2-112
18378	1-307;1-460
18379	1-203;1-410;1-436
18380	1-431;1-492;1-484
18381	1-498;1-454
18384	1-89;1-159
18385	1-94;1-97
18386	1-464;1-467;1-468;1-464;1-465;1-93;1-467;1-434;1-361;1-478;1-463
18387	1-244;1-74
18388	1-497;1-459;13-398
18389	1-470;1-485;1-439
18392	1-174;1-421;1-405;1-427;1-275;1-405;1-231;1-238;1-262;1-386;1-323;1-382;1-396;1-418;1-416;1-394;1-385;1-265;1-385;1-385;1-237;1-200
18394	1-487;1-538;1-308;1-478;1-498
18395	1-392;4-224
18396	1-347;1-346;1-348;1-346
18399	1-439;1-419;1-439
18400	1-182;1-183;1-183;1-183;1-183;1-180;1-183;1-183
18401	1-96;1-95;1-95
18402	1-344;1-249;1-355;1-342;1-356;1-355;1-344;1-356;1-354;1-344;1-356;1-355;1-338;1-342;1-339;1-340;1-337
18403	1-137;1-137;1-137;1-137;1-137;1-137;1-137
18405	1-533;1-464;1-120
18407	1-187;1-86
18408	1-503;1-349
18411	1-299;1-359;3-369
18415	1-366;1-361;1-175;1-367;1-366
18416	1-377;1-335
18417	1-512;1-522;1-491
18419	1-403;1-437;1-454;1-278;1-402;1-439;1-363;1-471;1-547;1-439;1-259;1-421;1-489
18420	1-97;1-88
18421	1-226;1-226;1-226;1-228;1-228
18422	1-102;1-100
18424	1-411;1-412
18426	1-143;1-143;1-143
18428	1-110;13-186
18429	1-509;1-377;2-376
18431	1-57;1-93
18435	1-55;1-54
18438	1-61;1-61
18439	1-478;6-149
18440	1-302;1-299
18441	1-464;1-408;1-453
18446	1-253;1-276;1-262;1-278;1-224;1-274;1-275;1-278;1-273;1-278;1-273;1-263;1-265;1-275;1-268;1-278;1-277;1-274;1-277;1-275;1-274;1-267;1-278;1-278;1-267;1-278;1-266;1-275;1-274;1-259;1-262;1-274;1-275;1-85
18447	1-214;1-202;1-213;1-213;1-213;1-193;1-213;1-213;1-213;1-206;1-213;1-213;1-213;1-213;1-213;1-213;1-213;1-213;1-213;1-213;1-204;1-214;1-216;1-200;1-213;1-213;1-214;1-214;1-208;1-212;1-213;1-213;1-214;1-214
18448	1-396;1-357
18449	1-387;1-423;1-343;1-410;1-409;1-409;1-138;1-231;1-421;1-425;1-377;1-424;1-394;1-407;1-418;1-424;1-418;1-400;1-407;1-405;1-405;1-407;1-411;1-258
18450	1-379;1-439;1-372;2-325;2-474;2-479;3-515
18451	1-493;1-473;1-379;1-439;1-372;2-325
18452	1-377;1-287;2-368;2-300;2-400;3-416;3-305
18458	1-104;1-148
18461	1-107;1-79;1-107

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18462	1-51;1-56;1-56
18463	1-354;1-462;1-443;1-460;1-462;1-462
18464	1-76;1-76;1-76
18467	1-427;1-366
18471	1-410;1-350
18474	1-422;1-422;1-426
18476	1-324;1-316;1-319
18477	1-237;1-223
18478	3-453;3-455;3-448;3-455;3-454;3-454;3-454;3-413;3-375;12-440;12-452;12-413;12-452;12-412;12-451;12-442;24-452;25-434;25-109;25-449;25-449;25-446;25-455;25-448;25-454;25-453;25-455;25-453;25-433;25-436;25-448;25-375;25-415;25-450;25-434;25-454;25-453;25-453;25-453;25-451;25-455;25-434;25-452;25-423;25-451;25-444;25-452;26-452;26-453;26-452;26-453;26-454;26-349;26-447;26-358;26-442;26-452;26-407;26-94;26-454;26-455;26-451;26-415;27-442;27-455;27-478;27-453;27-108;27-450;27-455;27-450;27-443;27-446;27-415;27-454;27-400;27-136;27-445;27-455;27-442;27-436;27-442;27-443;27-442;27-374;27-451;27-452;27-432;27-449;27-452;27-446;27-453;27-441;27-448;27-454;27-453;27-454;27-454;27-444;27-404;27-453;27-443;27-452;27-455;27-452;27-403;27-455;27-426;27-375;27-453;27-452;28-448;29-452;29-100;29-453;29-448;29-445;30-449;30-452;30-445;30-282;30-452;30-440;30-441;30-438;30-452;30-452;30-452;30-438;30-449;30-452;30-436;30-136;30-441;30-451;30-411;30-452;30-452;30-451;30-440;30-452;30-438;30-358;30-438;30-446;30-452;30-452;30-40
18484	1-102;1-58
18485	1-398;1-472
18487	1-467;1-157;1-469;1-493;1-493
18490	1-395;1-390;1-393;1-393;1-386;1-405;1-391;1-391;1-385
18491	1-432;1-482;1-680;1-427
18492	1-472;1-482;1-454;1-368;4-416;4-553;4-471;4-132;4-210;4-479;4-271;14-498
18493	1-430;1-460;1-429
18494	1-159;4-221;10-338;10-171;11-365;11-407
18495	1-195;1-447;28-441;31-272
18496	1-465;1-451
18497	1-427;1-469;1-402;1-461;1-457;9-106;9-408
18498	1-403;1-422;1-407;35-395
18500	1-370;1-508;1-483;1-314;1-393;1-372;1-438;1-505;1-490;1-478
18501	1-187;1-476
18505	1-498;1-289;1-289;1-433;1-254;1-472;1-396;1-554;1-420;1-499;1-440;1-293
18507	1-490;1-449;1-337;1-495;1-509;1-487;1-516;1-498;1-517;1-429;1-489;1-491;1-479;1-464;1-489;1-358;1-445;1-504;1-363;1-362;1-380;1-430;1-268;1-127;1-516;1-504;1-414;1-269;1-514;1-435;1-477;1-358;1-490;1-563;1-439;1-489;1-359;1-516;1-491;1-502;1-531;1-494;1-491;1-473;1-505;1-493;1-514;1-421;1-463;1-464;1-382;1-377
18508	1-449;1-414;1-269;1-337;1-485;1-435;1-477;1-358;1-439;1-359;1-429;1-479;1-464;1-358;1-445;1-473;1-421;1-463;1-464;1-363;1-382;1-362;1-380;1-377;1-127;1-430;1-268
18512	1-429;1-261;1-464;1-380;1-438;1-452;1-476;1-401;1-445;1-564;1-445;1-450;1-547
18513	1-442;1-450
18514	1-489;1-471;1-488;1-486;1-523;1-493
18515	1-74;1-83;4-160;6-127;8-162;8-96;8-190;8-157;8-111
18516	1-74;1-83;4-160;6-127;8-162;8-186;8-96;8-157;8-111;8-541
18517	1-74;1-83;4-160;6-127;8-357;8-380;8-162;8-188;8-96;8-157;8-111;8-357;8-387
18518	1-74;1-83;4-160;6-127;6-235;8-255;8-513;8-162;8-186;8-96;8-157;8-111;8-246;8-263;8-245;8-267;8-272
18519	1-83;1-74;4-160;6-127;6-403;6-413;7-393;7-391;8-399;8-400;8-384;8-397;8-188;8-357;8-414;8-400;8-96;8-402;8-401;8-401;8-157;8-111;8-393;8-397;8-401;8-391;8-357;8-162;8-412;8-403;8-398;8-390;8-398;8-416;8-402;8-398
18547	1-198;1-434;1-423
18548	1-464;22-432;32-460;32-450;32-369;36-366;54-487;65-489;65-501;65-451;65-509;65-489;65-277;65-488;65-501;65-424;65-502;90-490
18549	61-474;63-408;63-520;64-484;64-328;64-562;64-253;64-534;64-486;64-329;64-330;64-309;64-537;64-262;64-404;64-212;64-402;65-442;75-543;92-532;92-546;92-516;92-528;92-528;92-562;92-186;92-555;92-325;92-499;92-545;92-305;92-336;92-561;92-520;93-563;102-329;102-546;102-528;102-549;103-318;103-547;103-410;103-521;103-429;103-182;103-521;104-182;104-494;104-406;104-386;104-533;104-536;105-430;105-548

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18552	1-472;1-464;1-454
18555	1-452;1-509
18556	1-566;1-474
18557	1-462;1-162;1-443;1-368;1-452;1-467
18558	1-488;1-513;1-415
18559	1-417;1-515
18560	1-110;1-468;1-511;1-463;1-356;1-397
18561	1-363;1-363;1-363;1-376;1-366;1-376;1-377;1-375;1-361;1-363;1-360;225-329
18562	1-541;1-384
18565	1-110;1-108;1-108;1-110;1-110;1-108;1-108;1-108;1-108;1-110;1-110;1-110;1-108;1-110
18566	1-429;1-449;1-435
18567	1-479;1-469;1-495;1-427
18568	1-413;1-414
18574	1-179;1-400
18575	1-409;1-484;1-443;1-432;1-334;1-472;1-487;1-433
18576	1-472;1-448;1-499;1-475;1-485;1-461
18577	1-334;28-497;28-419
18578	1-482;1-272;1-494
18579	1-427;38-283
18581	1-410;1-507;1-172;1-499;1-387;1-437
18584	1-394;1-395;1-407;1-262;1-386;1-409;1-395;1-409;1-393;1-390;1-403;1-407;1-397;1-408;1-400;1-409;1-409;1-409;1-394;1-408;1-407;1-394;1-395;1-389;1-404;1-395;1-407;1-408;1-410;1-402;1-407;1-394;1-409;1-409;1-410;1-394;1-410;1-394;1-394;1-407;1-400;1-197;1-408;1-397;1-381
18590	1-498;1-464;1-483;1-422;1-345;1-445
18591	1-140;1-452
18592	1-437;1-449;1-413;1-494;132-584
18593	1-285;1-288;1-288;1-288;1-285;1-288;1-288;1-288;1-288
18594	1-418;1-437;1-385;1-419;1-449
18596	1-217;67-546;218-534;218-553
18597	1-411;1-426;1-437
18598	1-398;1-402;1-319;1-397;1-381;1-386;1-358;1-402;1-387;1-255;1-390;1-405;1-394;1-404;1-404;1-392;1-404;1-404;1-392;1-401;1-386;1-403;1-386;1-354;1-390;1-405;1-386;1-405;1-383;1-387;1-384;1-386;1-405;1-402;1-401;1-403;1-384;1-389;1-383;1-406;1-403;1-402;1-402;1-403;1-396;1-402;1-404;1-378;1-405;1-400;1-389;1-405;1-387;1-77;1-382;1-386;1-369;1-385;1-386;1-383;1-386;1-368;1-391;1-388;1-386;1-387;1-393;1-394;1-403;1-386;1-386;1-386;1-403;1-386;1-404;1-404;1-397;1-122;1-398;1-369;1-395;1-388;1-382;1-351;1-404;1-144;1-386;1-90;1-386;1-108;1-402;1-404;1-404;1-385;1-405;1-405;1-386;1-386;1-402;1-384;1-402;1-402
18599	1-327;1-478;1-421;1-497;1-344;1-414;1-461;1-531;1-528;1-340;1-403;1-506;1-521;1-482;1-470;1-512;1-408;1-516;1-497;2-362
18600	1-289;27-476;27-426;27-289;27-446;27-516;27-426;27-437;27-515;27-454;28-389
18601	1-445;1-495;1-492;1-440;1-482;1-445;1-387;1-496;1-478;1-319
18602	1-314;1-311
18603	1-433;1-411
18604	1-263;2-419
18608	1-468;1-469;1-454
18610	1-52;2-417
18612	1-333;1-346
18613	1-398;1-480;2-53
18616	1-470;1-483;1-499;1-517;1-480;1-486;1-461;1-446;1-487;1-514;1-514;1-475;1-492;1-499;1-497;1-447;1-457;1-501;1-483
18619	1-483;1-452
18621	1-267;9-471;9-428;9-171;9-472;9-450;9-430;9-492;9-477;9-452;9-440;9-465;9-401;9-477;9-477;9-477;9-490;9-477;9-492;9-468;9-464;9-358;9-419
18624	1-225;1-336;1-296;1-332;1-316;1-335;1-250;1-328;28-336;29-325;29-295;29-479;29-147;29-270;29-298;29-336;29-328;29-314;29-333;29-336;29-322;29-322;29-325;29-295;29-302;29-331;29-328;29-336;29-298;29-322;29-453;36-295
18625	1-224;1-249;29-269;29-405;29-146
18628	1-474;1-363
18630	1-388;1-412;1-423;1-481;2-493
18631	1-471;1-328
18636	1-410;1-433
18637	1-175;1-379;1-489;1-385;1-451
18638	1-192;13-383

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18640	1-474;1-474;1-423
18641	1-540;16-489;16-523
18642	1-443;30-189;30-421;30-376;30-357;30-220;30-397;31-262;31-226;31-236;31-386;31-417;31-421;31-178
18643	1-332;1-375;11-459
18644	1-197;1-424
18645	1-432;1-330;1-359;1-472;1-162;1-318;1-365;1-384;1-335;1-295;1-415;1-477;1-470
18649	1-462;1-516;1-437;1-444;1-478
18650	1-263;1-263;1-262
18651	1-518;3-327
18652	1-483;1-451;1-452;1-507
18653	1-391;1-66;1-397;1-397
18654	1-170;20-218
18655	1-333;1-361;1-361
18656	1-446;24-507
18657	1-463;202-584;202-581;206-727
18658	1-133;1-325;1-322;1-321;1-322
18661	1-209;1-209;1-209
18662	1-501;1-461;1-501;2-475
18663	1-485;1-458;1-471
18664	1-389;1-384;69-366
18666	1-483;1-425;1-410
18668	1-492;1-495;1-512
18669	1-450;1-552;12-442
18670	1-463;1-391
18672	1-408;2-415;2-426;2-414;2-416;2-225;2-290;2-411;2-225;2-401;2-436
18674	1-265;11-270
18675	1-493;1-424
18676	1-175;1-175;1-175;1-175;1-175;1-175;1-179;1-69;1-175;1-175;1-175
18677	1-152;1-405;1-405;1-405;1-405;1-405;1-120;1-405;1-405;1-405;1-405;1-405;1-394;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405;1-405
18680	1-464;9-498
18681	1-458;1-501
18682	1-448;1-458;1-458
18683	1-358;1-360;1-309;1-350;1-357;1-361;1-373;1-361;1-340;1-375;1-326;1-361;1-358;1-336;1-344;1-375;1-344;1-361;1-363;1-360;1-350;1-363;1-375;1-240;1-343;1-361;1-376;1-363;1-374;1-358;1-361;1-335;1-374;1-312;1-347;1-377;1-358;1-330
18685	1-492;1-343;1-418;1-476;1-284;1-487;1-466;1-502;1-391;1-64;1-509

Seq Id No.	Positions of biological 5'ESTs
18687	1-510;1-446;1-422;1-475;1-480
18688	1-503;1-459
18691	1-56;1-62;1-68;2-63;2-63;2-61;2-63;2-63;2-61;2-63;2-65;2-63;2-65;2-63;2-65;2-63;3-63;3-57;3-63;3-63;3-61;3-63;3-65;3-58;4-63;4-63;5-64;5-60;5-65;5-62;5-63;5-59;5-61;5-63;5-70;5-65;5-63;5-63;5-66;5-57;5-61;5-66;5-59;5-63;5-65;5-60;5-63;5-61;5-64;5-63;5-62;5-60;5-61;5-63;5-59;5-63;5-61;5-61;5-59;5-63;5-65;5-65;5-63;5-62;5-63;5-57;5-55;5-66;5-67;5-69;5-63;5-61;5-63;5-60;5-59;5-61;5-63;5-59;5-60;5-63;5-63;5-63;5-61;5-64;5-66;5-68;5-63;5-63;5-61;5-61;5-68;5-62;5-70;5-70;5-63;5-61;5-67;5-59;5-61;5-63;5-63;5-62;5-63;5-68;5-58;6-64;6-66;6-64;6-65;6-63;6-65;6-65;6-65;6-60;6-63;6-68;6-63;6-62;6-62;6-61;6-56;6-63;6-61;6-63;6-62;6-60;7-63
18706	1-425;1-419;1-525
18721	1-341;17-332
18735	1-352;1-328;1-339;1-372;1-323;1-359;1-364;1-372;1-355;1-372;1-371;1-372;1-372;1-372;1-372;1-373;1-371;1-374;1-372;1-372;1-359;1-371;1-372;1-372;1-359;1-371;1-360;1-356;1-282;1-100;1-363;1-372;1-354;1-373;1-358;1-360;1-110;1-370;1-360;1-290;1-365;1-74;1-349;1-359;1-371;1-174;1-371;1-93;1-353;1-365
18740	1-405;1-283;1-100;1-110;1-291;1-74;1-174;1-93
18752	1-124;1-365
18756	1-351;1-385;1-379;1-386
18759	1-195;31-272;31-208;31-84;31-208;32-269;32-85;32-266;32-112;32-252;32-268;32-426;32-233;32-112;32-225;32-191;32-233;32-192;32-234;32-218;32-254;32-273;33-223;33-226;35-277
18779	1-390;11-306
18791	1-418;53-503;53-527;53-502;53-522;53-410;53-527
18792	1-439;1-466;1-441
18793	1-462;1-399;1-487;1-452;1-510;1-396;1-420;1-481
18794	1-434;1-453
18795	1-351;1-458;1-465;1-205;1-427
18796	1-475;1-462;1-495;1-503;1-351;1-479;1-205;1-427;1-479;1-497
18798	1-475;1-482
18799	1-403;1-381
18800	1-453;1-506
18801	1-438;1-600;1-433
18802	1-399;33-499

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18803	1-492;1-433;7-485;7-495;7-528;7-91;16-423;17-127;17-167;55-150;55-167;55-167;55-167
18804	1-79;1-83
18805	1-481;1-490
18806	1-447;1-402
18807	1-438;1-165;1-388;1-275;1-447;1-447;1-398;1-447;1-439;1-447
18808	1-490;1-495;1-495
18810	1-231;1-297
18811	1-61;1-87
18812	1-506;1-464;1-447
18813	1-470;3-484
18814	1-446;321-824;321-795;321-788;321-821;321-687;321-786;321-787;321-587;321-895;321-754;440-875;440-903;503-991
18815	1-494;1-509
18816	1-238;39-561
18817	1-206;1-487
18818	1-474;12-249;12-504
18819	1-237;10-533
18820	1-406;1-440
18821	1-468;1-461;1-393;1-476;135-593
18825	1-486;1-490
18826	1-340;1-402;1-389
18828	1-445;17-333
18829	1-421;1-444
18830	1-282;1-256
18831	1-516;1-522
18832	1-522;1-452;1-506;1-465
18834	1-208;1-394
18835	1-512;1-532
18838	1-168;1-263;1-265;25-263;25-263;25-262;25-263;25-262;25-264
18839	1-374;1-259
18840	1-438;1-423;1-438;1-317;1-421;1-425;1-439;1-434;139-226
18841	1-434;1-423;1-317;1-421;1-452;1-425;1-434;139-226
18842	1-209;1-221;1-225
18843	1-360;1-438
18844	1-412;104-359
18845	1-470;11-291;25-494
18846	1-393;1-401
18847	1-352;20-177
18848	1-116;26-416
18849	1-489;1-299;1-479
18851	1-357;1-356
18852	1-357;1-324;1-334;1-357;1-360;1-349;1-341;1-352;1-349;1-351;1-349;1-344;1-347;1-360;1-353;1-342;1-350;1-300;1-357;11-351;11-344;11-359;11-83;11-282;11-342;11-339;11-342
18859	1-389;1-485;1-341
18861	1-338;1-453;1-451
18862	1-427;1-501
18863	1-353;1-353
18866	1-176;2-177;2-176;2-165;2-176;2-166;2-177;2-176;2-177;2-175;2-177;2-175;2-176;2-162;2-176;2-176;2-177;2-177;2-177
18867	1-446;1-423;1-446;1-270
18868	1-209;1-220;1-208
18869	1-488;306-716
18870	1-181;1-250;1-174
18871	1-234;1-182;1-226;1-238;1-175;1-222;1-238
18872	1-181;1-269;1-256;1-269;1-174
18873	1-181;1-300;1-288;1-174;1-296
18874	1-490;1-487;1-476;1-457;46-226;46-219
18875	1-475;1-274;1-482;1-278;1-386
18876	1-425;1-339
18877	1-462;1-501;1-427;1-356
18878	1-462;1-476;1-427;1-356
18880	1-553;1-467;104-563
18882	1-461;1-305
18883	1-427;1-485
18884	1-496;11-495;11-429;11-432
18885	1-414;1-370;1-417;323-936;323-384
18886	1-477;1-470;1-442;1-253
18889	1-449;1-443
18890	1-464;1-467;1-456
18891	1-491;1-471;1-502;1-465;1-401;1-429
18892	1-524;4-204;62-495
18895	1-57;1-426;39-302
18896	1-284;10-59
18897	1-82;1-344;1-253
18898	1-412;1-328
18899	1-378;1-298;1-356;30-111
18900	1-240;1-351
18901	1-452;1-507;1-466
18902	1-266;1-266;1-271;4-266
18903	1-479;1-449
18904	1-258;1-304
18908	1-395;1-400;6-424

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18911	1-312;1-308;1-271;1-247;2-295;2-193;2-243;2-159;2-159;2-288;2-133;2-71;2-133;2-212;2-268;2-274;2-269;2-213;2-200;4-314;4-282;4-148;4-303;5-145;5-266;5-381;5-290;5-313;5-221;5-275;5-266;5-266;5-266
18916	1-447;21-110;21-93
18917	1-484;1-506;1-338;1-151;1-499
18919	1-466;1-485;1-479
18921	1-411;72-154;72-176
18930	1-485;1-458;1-462
18933	1-412;1-237;1-440;1-347;1-413
18934	1-380;1-439;1-582
18935	1-262;1-281
18936	1-341;1-341;1-336;1-341
18937	1-166;1-231;30-171;30-426
18940	1-154;1-424
18941	1-347;1-469
18943	1-98;1-97;1-99;1-146;1-149;1-147;1-99;1-146;1-134;1-99;1-134;1-100;1-146;1-95;1-145;1-115;1-99;1-99
18944	1-95;1-98;1-97;1-115;1-99;1-99;1-99;1-99;1-99;1-100;4-438
18945	1-488;1-404;1-524
18946	1-453;1-467;1-453;1-473;1-474;1-518;1-463;1-505
18950	1-397;1-88;2-425;19-468;19-283;20-433;21-427;21-404;21-200;21-454;23-452
18951	1-88;1-397;2-425;12-469;19-488;19-283;19-498;19-519;20-478;20-484;20-433;21-480;21-504;21-492;21-493;21-427;21-518;21-492;21-454;21-200;21-404;21-502;21-482;23-452
18953	1-306;1-304
18954	1-469;3-297
18956	1-439;304-658;304-731;304-790;304-790;304-691;304-665;304-721;304-658
18957	1-517;1-489
18958	1-301;1-481;1-485;1-1030;1-466;1-294;1-404;1-432;1-481
18964	1-442;1-502;1-471;1-500;1-471;1-527;1-500;1-486;1-499;1-435
18966	1-261;1-516
18967	1-226;1-436;1-435;1-449;1-378;1-395;1-95;1-425;1-261;1-388;1-414;1-435;1-54;1-433;1-325;1-348;1-419;1-436;1-393;1-393;1-432;1-440;1-415;1-384;1-361;1-424;1-433;1-66;1-435;1-424;1-397;1-431;1-436;1-353;1-448;1-432;1-433;1-419;1-434;1-411;1-152;1-158
18968	1-496;1-489;1-443;1-466
18969	1-489;1-443;1-466;35-569
18970	1-403;1-477;1-429
18971	1-69;24-466;24-438;24-228;70-602;70-563;70-578;70-562;99-401;99-607;102-517;102-596;113-466;113-601;113-594;113-465;113-441
18974	1-474;1-393;1-429
18975	1-388;1-449;1-431
18976	1-482;1-476
18977	1-467;30-194
18978	1-561;1-659
18979	1-451;1-318
18980	1-416;1-485;1-100;1-445;1-446
18981	1-463;2-399
18982	1-493;1-362;1-363;1-472
18984	1-441;1-507;1-423;1-462;1-449;1-475;1-357;4-187;10-434;11-470
18985	1-509;1-487;1-343;1-505;1-58;1-470
18986	1-63;1-433;1-64;1-74;1-318;27-165;31-180
18987	1-378;1-136;1-478;1-479;1-472
18988	1-310;1-473;1-107;1-361;1-394;1-471;1-489;1-434;45-431;127-424
18989	1-477;1-478;2-473
18991	1-528;1-511
18992	1-450;1-289;2-355;2-364;2-450;2-400;2-464;2-364;2-448;2-375;2-506;2-497;2-223;2-316;2-358;2-450;2-81;2-307;2-438;2-375;2-387;2-239;2-449;2-224;2-378;2-355;2-388;2-455;2-450;2-453;2-432;2-449;2-449;2-428;2-364;2-239;2-459;2-344;2-469;2-458;2-469;2-407;2-459;2-453;2-453;2-466;2-459;2-262;2-399;2-449;2-255;2-331;2-449;2-497;2-390;2-460;2-468;2-453;2-450;2-449;2-474;2-472;2-375;2-219;2-269;2-407;2-473;2-464;2-389;2-80;2-151;2-370;2-240;2-450;2-374;2-459;2-347;2-355;2-448;2-456;2-492;2-325;2-446;2-450;2-375;2-96;2-314;2-348;2-375;2-392;2-250;2-378;2-450;2-455;2-459;2-456;2-491;2-364;2-448;2-450;2-207;2-355;2-445;2-447;2-374;2-178;2-241;2-354;2-455;2-469;2-145;2-353;2-355;2-344;2-392;2-427;2-453;2-465;2-358;2-458;2-450;2-449;2-148;2-337;2-355;2-398;2-390;2-339;2-57;2-449;2-225;2-451;2-464;2-483;2-466;2-459;2-462;2-449;2-455;2-293;2-147;2-462;2-468;2-486;2-96;2-399;2-449;2-254;2-492;2-494;2-410;2-162;2-438;2-471;2-224;2-459;2-481;2-456;2-497;2-239;2-454;2-350;2-234;2-450;2-449;2-358;2-449;2-473;2-369;2-430;2-262;2-4

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
18998	1-299;1-443;1-429;13-458;13-476;13-484;13-455;13-465;13-365;13-444;13-511;13-446;13-472;13-496;13-239;13-441;13-445;13-469;13-409;13-517;13-293;13-332;13-514;13-379;13-446;13-356;13-379;13-518;13-485;14-465
18999	1-476;1-433;1-485;1-533
19002	1-458;14-459;14-404;14-397;14-479;14-448;14-441;14-434;14-458;14-458;14-457;14-822;14-382;14-384;14-402;96-457;96-457;97-675;98-481;98-488;98-458;99-502;100-177;100-456;100-466;100-457;100-230;100-481;100-457;100-408;100-471;100-304;100-457;100-458;100-383;100-507;100-485;100-481;100-502;117-481;117-495;117-457;117-456;120-460;120-457;120-458;120-480;120-459;120-445;120-457;120-407;120-384;120-457;120-457;120-448;120-572;120-456;120-501;120-456;120-447;120-481;120-564;120-429;120-406;128-195;128-445;144-458;144-448;158-456;158-442;158-448;158-549;158-379;158-505;158-458;158-457;158-457;158-573;158-637;158-456;158-471;158-457;158-615;158-457;158-457;158-429;159-456;160-458;167-458;195-456;197-383;197-459;198-435;207-456;209-458;210-347;226-503;226-458;226-556;226-457;371-793
19005	1-407;1-402;1-407
19006	1-488;1-510;3-303;283-701
19007	1-477;1-508;1-475
19008	1-478;1-453;1-443;1-477;1-374;1-411;1-399;1-399;1-402
19009	1-482;1-476;1-483;1-508
19010	1-436;1-412
19011	1-369;1-468;1-481;1-434
19017	1-424;1-483;1-412;1-454;1-420;1-484
19019	1-349;1-420;1-428
19020	1-411;1-455;1-497
19021	1-319;1-319;1-297;1-307;1-283;1-319;1-319;1-319;1-319;1-282;1-300;1-234;1-319;1-308;1-319;1-305;1-310;1-319;1-319;1-325;1-319;1-318;1-319;1-319;1-319;1-196;1-319;1-319;1-325;1-319;1-300;1-319;1-325;1-290;1-318;1-319;1-319;1-319;1-319;1-319;1-319;1-313;1-309;1-307;1-319;1-325;1-319;1-319;1-319;1-307;1-325;1-319;1-319;1-325;1-319;1-306;1-319;1-325;1-319;1-306;1-309;1-319;1-319;1-308;1-306;1-319;1-319;1-319;1-313;1-319;1-325;1-318;1-310;1-319;1-272;1-306;1-319;1-325;1-276;1-319;1-319;1-280;1-319;1-319;1-319;1-319;1-325;1-319;1-306;1-319;1-319;1-319;1-319;1-319;1-319;1-265;1-319;1-269;1-319;1-319;1-308;1-319;1-178;1-319;1-306;1-319;1-319;1-319;1-306;1-318;1-325;1-310;1-319;1-319;1-318;1-133;1-319;1-310;1-319;1-322;1-318;1-310;1-319;1-319;1-319;1-325;1-319;1-319;1-318;1-319;1-325;1-325;1-319;1-319;2-319
19022	1-67;1-438;1-360;1-465;1-490;1-441
19023	1-424;1-466;1-463;1-499;1-305;1-295;1-509;1-448;1-472;1-407;1-399;1-499;1-403;1-470;1-407;1-475;1-356;1-374;1-477;1-484
19024	1-424;1-466;1-499;1-463;1-295;1-305;1-514;1-448;1-499;1-399;1-407;1-472;1-403;1-407;1-470;1-475;1-356;1-374;1-477;1-484
19025	1-501;1-465
19026	1-293;1-282
19028	1-440;1-422
19029	1-442;1-550
19030	1-470;1-428
19031	1-81;48-509;48-531;48-528;48-527
19035	1-447;1-447;1-441;1-442
19037	1-391;5-491;5-516;5-487;5-470
19038	1-280;1-310;1-426
19039	1-482;1-580;1-404;1-284;1-472
19043	1-449;1-280;1-309
19044	1-62;1-62
19045	1-160;12-301;12-301;12-290;12-301;12-301;12-297;12-281;12-297;12-301;12-297;12-301;12-297;12-301;12-297;12-301;12-290;12-301;12-301;12-189;12-297;12-297;12-301;12-297
19046	1-363;1-462;1-342
19048	1-306;1-396;1-417
19049	1-383;1-536
19050	1-436;1-518

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
19051	1-480;1-508;1-487
19052	1-425;1-497;1-437;1-467
19053	1-450;2-408
19054	1-482;1-412;1-278
19055	1-465;1-465;1-463
19056	1-372;1-320
19057	1-465;61-175
19058	1-478;1-457
19059	1-468;1-401
19060	1-380;1-381;1-384
19062	1-500;1-109;1-463;1-299;1-478;1-285
19063	1-150;1-472;1-456
19064	1-515;1-513;1-472;4-419
19068	1-366;4-462;28-449;28-449;28-483;28-499;28-458;28-458;28-557;28-437;28-557;28-458;28-458;28-579;28-451;28-463;28-557;28-411;28-449;28-557;28-463;28-557;28-466;28-463;28-417;28-466;28-458;28-409;28-449;28-466;30-498;30-518;30-506;30-493;30-397;30-427;30-458;30-509;30-520;31-466;31-232;31-459;31-402;31-473;40-417;40-555
19073	1-426;3-313
19074	171-254;214-615
19078	1-423;1-131
19079	1-387;1-277
19080	1-586;1-445;1-228;1-449;1-513;1-483;1-552;1-577;1-427;1-242;1-547;1-579
19081	1-482;1-406;1-393;1-470;1-507
19082	1-468;1-406;1-393
19083	1-471;1-404;178-481
19085	1-375;1-474
19086	1-158;1-192
19087	1-516;7-454;11-436
19088	1-427;2-471
19089	1-183;1-458;1-550;1-491
19090	1-469;1-436
19091	1-415;1-410
19092	1-426;2-467;2-470;2-372;385-839
19093	1-456;1-463;1-424
19094	1-516;1-366
19095	1-484;1-478;1-444;1-421
19096	1-354;1-354;1-354;1-356;1-354;1-356;1-356;1-356;1-356;1-261;1-354;1-354;1-264;1-356;1-354;1-356;1-281;1-356;1-355;1-354;1-354;1-356;1-354;1-350;1-342;1-356;1-356
19101	1-492;1-445;1-528
19102	1-444;1-252
19103	1-424;1-439;1-425;1-426
19104	1-480;1-414;1-477;1-556;1-532
19105	1-422;1-407
19106	1-396;1-417;1-426;1-503;1-242;1-473;1-256;1-321;1-453;1-322;1-394;1-394
19107	1-168;1-154;37-168
19108	1-548;1-536;1-538;1-381;1-77;1-445;1-465;1-410;1-440;1-448;1-452;1-465;1-385;1-448
19109	1-493;1-464;1-496;1-515;1-479
19110	1-473;1-449
19111	1-405;1-419;1-452;1-233
19112	1-480;1-480
19113	1-394;1-314
19114	1-315;6-354
19115	1-435;1-483;1-429;1-601;122-594;122-561;122-541;122-353;122-587;122-416;122-562;122-510;122-612;122-561;122-562;122-538;122-572;122-601;122-609;122-600;122-600;122-604;127-590
19117	1-449;1-472;1-487;1-464;1-493;1-409;1-472;1-490;1-443;1-450
19120	1-456;12-340
19121	1-202;2-200;2-200;2-188;2-201;2-185;2-201;2-201;2-188;2-201;2-201;2-201;2-201;2-188;2-201;2-201;2-190;2-164;2-201;2-191;2-201;2-191;2-187;2-201;2-201;2-201;2-201;2-201;2-201;2-201;2-201;2-191;2-121;2-135;2-178;2-201;2-201;2-188;2-202;2-188;2-201;2-200;2-155;2-90;2-175;2-201;2-192;2-197;2-201;2-201;2-201;2-188;2-190;2-188;2-188;2-201;2-196;2-201;2-188;2-201;2-201;2-201;2-187;2-187;2-201;2-184;2-201;2-201;2-201;2-187;2-190;2-161;2-201;2-203;2-201;2-98;2-201;2-88;2-201;2-201;2-202;2-201;2-188;2-121;2-190;2-188;2-188;2-188;2-117;3-201;3-202;3-201
19122	2-439;2-335;2-371;5-424;22-152;25-407;25-439;25-358;25-439;27-298
19125	1-448;14-438
19127	1-514;1-503;2-468
19128	1-452;1-466;1-453;1-351;1-394;1-469;1-444
19129	1-427;1-566;1-450
19130	1-454;1-517;1-454
19131	1-117;1-458
19132	1-136;1-134;1-136;1-124;1-124;1-136;1-134;1-136;1-134;1-134;1-136;1-134;1-134;1-136;1-134;1-136;1-136;1-134;1-134;1-136;1-136;1-136;1-136;1-134;1-136;1-134

TABLE II
(Tiling path)

Seq Id No.	Positions of biological 5'ESTs
19133	1-374;1-470;1-438;1-463;1-500;1-396;1-372;1-500;1-500;1-385
19135	1-469;272-682
19136	1-479;1-484
19137	1-126;1-142
19138	1-493;1-431;63-534;63-536;63-332;63-534;63-503;63-554
19141	1-340;1-339;1-339;1-328;1-337;1-353;1-339;1-331;1-340;1-351;1-340;1-354;1-352;1-355;1-330;1-340
19142	1-400;1-333
19147	1-480;1-438;1-444;1-440;1-457
19148	1-79;1-229;1-400;1-264;1-112;1-147;1-406;1-394;3-77;3-292;3-257;4-153;4-347;4-157;22-128;22-107
19149	1-332;1-337
19150	1-210;1-515
19151	1-258;1-77;1-71
19159	1-429;1-429;1-430;1-425;1-433;1-422;1-358;1-421;1-429;1-408;1-267;1-429;1-446;1-331;1-443;1-386;1-441;1-446;1-433;1-427;1-430;1-453;1-401;1-406;1-433;1-429;1-126;1-438;1-440;1-429;1-429
19161	1-533;1-319;1-495;1-550;1-366
19163	1-500;1-258;1-468;1-453;1-241;1-504
19164	1-416;1-418;1-435
19165	1-352;1-497
19166	1-497;1-485;1-127
19167	1-341;1-369
19168	1-371;1-382;1-400;1-396;1-161;1-364;1-381;1-382;1-384;1-380;1-385;1-159;1-383;1-377;1-387;1-384;1-397;1-188;1-391;1-397;1-368;1-102;1-382;1-382;1-400;1-386;1-385;1-387;1-378;1-382;1-286;1-400;1-386;1-400;1-388;1-387;1-211;1-398;1-382;1-369;1-382;1-384;1-376;1-397;1-385;1-384;1-373;1-373;1-368;1-397;1-382;1-345;1-382;1-397;1-352;1-397;2-77
19169	1-116;1-130;1-127;1-144;1-124;1-144;1-139;1-99;1-115;2-135
19170	1-434;7-62;7-298
19174	1-474;1-532;1-527
19175	1-519;1-423
19176	1-424;200-658
19177	1-287;1-276;1-286;1-285;1-291;1-291;1-266;1-303;1-133;1-262;1-297;1-292;1-244;1-301;1-287;1-300;1-300;1-290;1-288;1-277;1-202;1-138;1-288;1-269;1-153;1-301;1-302;1-277;1-143;1-277;1-288;1-300;1-277;1-283;1-243
19178	1-369;1-361
19179	1-500;1-391
19180	1-270;1-293;1-279;1-278
19181	1-558;1-436
19182	1-411;1-471;1-412
19185	1-88;1-88
19186	1-467;1-484;1-513
19187	1-464;1-370;1-460
19188	1-461;1-472
19189	1-473;1-460
19190	1-488;1-504;1-389;1-456;1-456;1-479;1-271;1-453;1-367;1-518;1-210
19191	1-380;36-131;36-134;36-132;36-131;36-131;36-131;36-134;36-132;36-132;36-134;36-132;36-132;36-132
19192	1-421;1-449
19193	1-196;1-214
19194	1-511;1-365;1-481;1-548;1-366;1-511;1-453;1-466;1-479;1-550;1-445;1-410;1-501;1-379;1-481
19205	1-468;1-364
19237	1-304;1-308;1-308;1-282;1-308
19282	1-377;1-355
19292	1-321;1-474;1-496
19303	1-199;3-489
19314	1-385;11-206
19325	1-355;1-249;1-359;1-320;1-366;1-359;1-354;1-335;1-359;1-334;1-367;1-390;1-351;1-388;1-76;1-389;1-375;1-274;1-375;1-389;1-367;1-334;1-367;1-390;1-272;1-361;1-376;1-354;1-389;1-358;1-375;1-355;1-366;1-367;1-375;1-370;1-374;1-367;1-367;10-377

TABLE III
(Multivariant clusters)

Internal designation	Variants
D1	15657,16303,16842
D2	3523,17893,18827
D3	422,2393,10295,11067,15100,15152
D4	15266.15328
D5	15420,15466,15520,15573,15614,15658,15711,15748,15855,15956,16025,16093,16156,16194,16252,16304,16362,16413,16472,16524,16584,16636,16680,16734,16789,16843
D6	16947.17054
D7	17118.17165
D8	1666.196
D9	1913.17346
D10	236,238,247,251,18198,18341
D11	18388.18448
D12	18700.18743
D13	175,3742,3749
D14	3867.3879
D15	997,1096,1130,7920,8104,8192
D16	9217.9298
D17	1186,10834,11557
D18	2828.12719
D19	314.1909
D20	153.13674
D21	471,13878,13957
D22	112.203
D23	14318.14392
D24	2319,14701,14862
D25	563,15032,15095,15101,15109,15113,15114,15117
D26	2367,15153,15157,15165
D27	2390.15207
D28	578,15227,15231
D29	2414,15291,15296
D30	15303.15309
D31	15329,15335,15342
D32	1521.15457
D33	614.248
D34	15481,15490,15495,15497
D35	2493.2497
D36	15528.15535
D37	2545,2549,2552,15620
D38	358,366,2560
D39	109.15645
D40	15659,15666,15672
D41	43,1362,1363,2587,15700
D42	1817,1854,1945,2051
D43	15731,15734,15737,15741,15749,15760
D44	2623,2624,2625,2626,2627,2628,2629,2630,2631,2632,2633,2634,2636,2639,2643,2645,2646,3213,3274,15823,15844,15977,15996
D45	16094.16098
D46	686.16102
D47	1672.1618
D48	2725.16224
D49	1055,2731,16258
D50	700.16273
D51	1347.1348
D52	3564.16314
D53	715.716
D54	16348.16356
D55	16392,16398,16405,16414,16419,16424
D56	277.1662
D57	1403,2829,16474
D58	16525,16529,16533,16544
D59	16621.16626
D60	16644,16649,16650
D61	16656.1666
D62	775.17
D63	16709.16716
D64	783,1852,16736,16741
D65	1936.1675
D66	790,794,799,2931,2938,2940,2948,16790,16819
D67	16829.16836
D68	805.16852
D69	16873.16879
D70	836,17099,17109
D71	17130,17136,17140
D72	275,275,1596,17200
D73	880.3117
D74	82,886,892,1453,1455,1461
D75	3179.3184
D76	17432.17439
D77	3215,3218,17491
D78	17541,17548,17554
D79	17574.17581
D80	3279.1763
D81	958.3302
D82	17719.17732
D83	3319,3321,17753,17756
D84	1893.1781

TABLE III
(Multivariant clusters)

Internal designation	Variants
D85	1033.1034
D86	17985,17993,17998
D87	18002.18007
D88	18048,18054,18058,18062,18065,18066,18068,18071,18075
D89	18083,18086,18091,18101,18106
D90	3452,3453,18122,18126,18140,18148,18152,18158,18167,18170,18172,18175
D91	3460,18181,18190
D92	1102.3467
D93	67,68,1704,18287
D94	3500,18310,18317
D95	18357,18363,18367,18368,18371
D96	18396.18403
D97	18478,18499,18506,18535
D98	1172.18563
D99	3591,3596,18581
D100	18618.18622
D101	1210,1212,1218,1219,1220,1222,3647,3651,3658,18659,18679,18686,18690,18692
D102	18721.18726
D103	18735.1874
D104	368,3664,3666,3668,3677,18752,18756,18759,18763,18766,18773,18780,18789
D105	1241.1885
D106	1869.18859
D107	18888.18893
D108	3747,18905,18909,18912,18914,18920,18922,18923,18925,18926,18928,18929
D109	1273.1558
D110	1285,1288,3779,3780,3796,3800,18984,19004
D111	19038.19043
D112	19064,19070,19077
D113	19136.19139
D114	1318,3862,19145
D115	3869.3872
D116	19303.19314
D117	1320,3842,3843
D118	7828,7837,7845,7851
D119	1235,3728,3736,3752,3768,3804,3823,3827,7872
D120	8005.8015
D121	1176,8083,8125
D122	3705.8143
D123	1146.3681
D124	1144.8233
D125	1113.8307
D126	1109.3621
D127	926,941,8529,8538
D128	3518,3519,8667,8678,8690,8699,8710,8721,8732,8742,8751,8758,8768,8777,8786
D129	8805.8813
D130	3478,8830,8841,8862,8873
D131	1422.8885
D132	8976.8986
D133	292.1468
D134	9177.9185
D135	9208.9218
D136	312.924
D137	9372.938
D138	3214,3216,3220,9396,9403,9411,9420,9428,9435,9444,9453,9463,9474,9484,9518,9525,9532,9539
D139	9614.9622
D140	9769.978
D141	3078,9836,9853
D142	3056,9861,9871
D143	470.473
D144	467,3020,3025
D145	410,2984,9988
D146	10010.10016
D147	2944,2951,2952
D148	2926.10106
D149	2907.2914
D150	10178,10185,10193,10203,10211,10220,10229,10237,10248,10258,10269,10278,10286,10297,10306
D151	284.1097
D152	10339.10348
D153	10392.10401
D154	2689.10504
D155	2608,2617,10523,10531,10538,10554
D156	929,3035,10591
D157	876,10612,10627
D158	2535.10679
D159	10686.10694
D160	1233.10763
D161	2476,2483,10798,10817
D162	10845.10852
D163	577,2372,10990

TABLE III
(Multivariant clusters)

Internal designation	Variants
D164	530,11076,11090
D165	2209,2363,2392
D166	11247.11258
D167	2194.2195
D168	11378.11387
D169	11457.11465
D170	1206.11537
D171	2094,2100,11606
D172	11674.11685
D173	11833.11843
D174	11906.11916
D175	11998.12008
D176	12039,12050,12061
D177	1420,12145,12166
D178	12197.12208
D179	953,956,12279
D180	673,709,711,759,789,822,875,905,12356
D181	3288,12532,12538,12546
D182	561,2856,12571
D183	1588.12605
D184	370.1267
D185	762,12687,12759,12795,12809
D186	12854.12862
D187	12879.1289
D188	107.1516
D189	2416.12945
D190	650.12977
D191	617.12995
D192	229.13057
D193	426.13078
D194	387.2082
D195	13359,13367,13375,13384,13392,13398,13407,13412,13420,13428,13435,13443
D196	13449,13457,13464
D197	235.1801
D198	2144.13557
D199	2099.2153
D200	13627,13636,13642,13648
D201	2121.13712
D202	13722.13731
D203	439,2132,13751,13760
D204	13779,13788,13796,13801
D205	1950.1965
D206	480.14104
D207	1773,1775,1776,1779,14134,14143
D208	14224,14232,14240
D209	1987.1425
D210	2238.14266
D211	14278.14286
D212	2256.2258
D213	14654,14673,14691
D214	14781,14789,14798,14807
D215	1617.1487
D216	2334.14933
D217	14986.14995
D218	2348,15013,15023
D219	15077.15088
D220	165,356,1498,2354,15096
D221	2355.15099
D222	15104,15105,15106,15107
D223	1436.15112
D224	1387,1388,15115
D225	2364,15120,15121,15122
D226	564.565
D227	15126,15127,15128
D228	15131.15132
D229	15133.15134
D230	15137.15138
D231	2369.15142
D232	315,568,15150
D233	570,1399,2373,2375,15156
D234	15159.1516
D235	1577.15161
D236	15162.15163
D237	2378.15169
D238	2379,2380,15172
D239	2382.15175
D240	572,2384,15176
D241	290,1850,1853
D242	15190.15191
D243	15196,15197,15198,15199,15200,15201,15202,15203,15204,15205,15206,15208,15209,15210
D244	15212,15214,15215
D245	15220.15221
D246	2396,15224,15225
D247	15229.1523
D248	15232,15233,15234
D249	15237.15238
D250	15244.15246
D251	2401.2742
D252	2403.15249

TABLE III
(Multivariant clusters)

Internal designation	Variants
D253	1570.2777
D254	585.15252
D255	2408.1526
D256	15261,15262,15263
D257	15268,15269,15270,15271
D258	2411,15272,15274,15275,15276,15277,15278
D259	586.587
D260	15281.15282
D261	1874.1887
D262	15286.15287
D263	1984.2417
D264	15294.15295
D265	2420,15297,15298
D266	15301.15302
D267	15306.15307
D268	2423.1531
D269	15312,15313,15314,15316,15317,15318,15319,15320,15321,15322,15323
D270	731,2427,2428,2429
D271	2431.15327
D272	254.15332
D273	2432.15333
D274	15341.15343
D275	360.15344
D276	15348.1535
D277	15351.15352
D278	597,2434,15355
D279	15356,15357,15358,15359,15360,15361,15362,15364,15365,15366,15367
D280	858.15368
D281	599.1537
D282	260.261
D283	15384.15385
D284	2443,15386,15387,15388,15389
D285	15395.15396
D286	287.2446
D287	604.2447
D288	1415,1747,15404,15405,15406,15409
D289	15411.15412
D290	606,607,15414
D291	1791.15418
D292	2452,2453,2454,2457,2458,2459,2460,2855,2882
D293	2461.15427
D294	608,610,810,15433,15434
D295	2470.15436
D296	15437,15438,15439,15440,15441
D297	15445.15446
D298	1593,2474,15454
D299	15456.15458
D300	15460.15461
D301	618,619,620,894,15465,15467,15468,15469,15470
D302	2482.15472
D303	623.15483
D304	2485.15491
D305	2487.15496
D306	15500.15501
D307	626.2489
D308	15504.15505
D309	307,308,1902,15506,15507,15508,15509,15510,15511
D310	1471.15512
D311	15513.15514
D312	1876.2494
D313	2498,15521,15522
D314	15524.15525
D315	15526.15527
D316	15529.1553
D317	15532.15533
D318	2502.2503
D319	15542.15543
D320	632.633
D321	15548.15549
D322	328,2505,15551
D323	2506.2507
D324	2508.2509
D325	15558.15559
D326	1956.2511
D327	1643.15562
D328	2516.2517
D329	74,75,1428
D330	2523.2524
D331	181,1416,15579
D332	347.3016
D333	2532,15586,15587
D334	1651,1743,1762,1764,1766,1767,15589
D335	15595.15596
D336	2543.15599
D337	2544,15601,15602

TABLE III
(Multivariant clusters)

Internal designation	Variants
D338	15604.15605
D339	125,265,1569,1663,15607
D340	1863.15611
D341	2554.15623
D342	123.1555
D343	2013,2014,2015,2016,2017,15624,15625,15626
D344	1760.15639
D345	657.2571
D346	659,2572,2573,15644
D347	661,662,2576
D348	2577,2578,15651,15652,15653,15654,15655,15656
D349	15662,15663,15664
D350	2579,2580,15667,15668,15669
D351	15670.15671
D352	2581,2582,2583
D353	957,2584,2585,15675,15676
D354	15677.15678
D355	15685.15686
D356	1657.2589
D357	1793,15695,15696
D358	15699.15701
D359	15705.15706
D360	15707.15708
D361	73,1427,15713
D362	15715.15716
D363	111,671,15717
D364	2612,2613,2614,3874,3880,15720
D365	15722,15723,15724
D366	1935.15725
D367	1649,15730,15732
D368	2619.15735
D369	320,672,15738
D370	15743.15744

Internal designation	Variants
D371	15747,15750,15751,15752,15753,15754,15755,15756,15757,15758,15759,15761,15762,15763,15764,15765,15766,15767,15768,15769,15770,15771,15772,15773,15774,15775,15776,15777,15778,15779,15780,15781,15782,15783,15784,15785,15786,15787,15788,15789,15790,15792,15793,15794,15795,15796,15797,15798,15799,15800,15801,15803,15804,15805,15806,15807,15808,15809,15810,15811,15812,15813,15814,15815,15816,15817,15818,15819,15820,15821,15822,15824,15825,15826,15827,15828,15829,15830,15831,15832,15833,15834,15835,15836,15837,15838,15839,15840,15841,15842,15843,15845,15846,15847,15848,15849,15850,15851,15852,15853,15854,15856,15857,15858,15859,15860,15861,15862,15863,15864,15865,15866,15867,15868,15869,15870,15871,15872,15873,15874,15875,15876,15877,15878,15879,15880,15881,15882,15883,15884,15885,15886,15887,15888,15889,15890,15891,15892,15893,15894,15895,15896,15897,15898,15899,15900,15901,15902,15903,15904,15905,15906,15907,15908,15909,15910,15911,15912,15913,15914,15915,15916,15917,15918,15919,15920,15921,15922,15923,15924,1592
D372	2637,15990,15991
D373	15992,15993,15994,15995,15997,15998,15999,16000,16001
D374	2638,2640,2641
D375	16005.16006
D376	16007,16008,16009,16010,16011,16012,16013,16014,16015,16016,16017,16018,16019,16020,16021,16022,16023,16024,16026,16027,16028,16029,16030,16031,16032,16033,16034,16035,16037,16038,16039,16040,16041,16042,16043,16044,16045,16046,16048,16049,16050,16051,16052,16053,16054,16055,16056,16057,16058,16059,16060,16061
D377	1544,16069,16070
D378	179,16076,16077
D379	2651.16078
D380	16080,16081,16082
D381	679,2652,2653
D382	1536.2658
D383	683,684,16090

TABLE III
(Multivariant clusters)

Internal designation	Variants
D384	16091.16092
D385	2660,2661,16095,16096,16097,16099,16100
D386	352,2662,16101
D387	16108,16109,16110,16111
D388	16113,16114,16115
D389	16116,16117,16118,16120
D390	2668.16122
D391	16125.16126
D392	16127,16128,16129,16130,16131,16132,16133,16134,16135,16136,16137,16138,16139,16140,16141,16142,16143,16144,16145
D393	2670.16147
D394	2671,2672,2673,16148
D395	1980.16149
D396	16150,16151,16152
D397	2675,16153,16154,16155
D398	2679,2680,2681
D399	2682,2683,2685,2686
D400	16160,16161,16162,16163,16164,16165,16166,16167
D401	140,149,2694,16171,16172
D402	1644,1647,1841,16174,16175,16177
D403	2701.16178
D404	2706.16185
D405	1620.2707
D406	16188.16189
D407	16191,16192,16193,16195
D408	693.2712
D409	2713,2714,2715,16197,16198,16199,16200,16201,16202,16203,16204,16205,16206
D410	16207.16208
D411	2718,3437,16209,16211,16212,16213,16214,16215,16216,16217,16218,16219
D412	2723,2724,16225
D413	16226.16227
D414	16228.16229
D415	16233.16234
D416	16237,16238,16239,16240
D417	697,2728,2729,2730
D418	16248,16249,16250,16251,16253,16254,16255,16256,16257,16259,16260,16261,16262
D419	16267.16268
D420	154.2737
D421	16270.16271

Internal designation	Variants
D422	701.274
D423	1344.3443
D424	702.16279
D425	16280.16281
D426	2745.2746
D427	704,16285,16286
D428	16288,16289,16290,16291,16292,16293,16294,16295
D429	707.16298
D430	1959.2748
D431	2750.16301
D432	304,1600,16305,16306
D433	39.1356
D434	16312.16313
D435	16315,16316,16317,16318,16319,16320,16321,16322,16323,16324
D436	2762,2763,16325
D437	16327.16328
D438	712,1079,3570,16330
D439	714,2765,16331
D440	2766,2767,2768,2769,2770,2771,16332
D441	16336.16337
D442	16338,16339,16340,16341,16342,16343,16344,16345
D443	16346,16347,16349,16350
D444	2772,16351,16352,16353
D445	16354.16355
D446	178.16357
D447	16358.16359
D448	2778,3489,16373
D449	2779.16375
D450	16380.16381
D451	2787.3583
D452	1882.16391
D453	2791,16393,16394
D454	723,724,16396
D455	16399.164
D456	725,726,16406
D457	16407,16408,16409
D458	2795,2796,2797,2798,2799,2800,2801,2802,2803,2804,2805,16410,16411,16412,16415,16416,16417,16418,16420,16421
D459	1454.1458
D460	16425,16426,16428,16429,16430,16431,16432,16433,16434,16435
D461	1602.1603
D462	16437.16438

TABLE III
(Multivariant clusters)

Internal designation	Variants
D463	16440.16441
D464	2812.16442
D465	1088,2815,16449,16450
D466	1962.1967
D467	16452,16453,16454,16455,16456,16457,16458
D468	16459,16460,16461
D469	78.16462
D470	16464.16465
D471	16468.16469
D472	736.1518
D473	2825,2826,16475
D474	1287.2827
D475	16477,16478,16479,16480,16481,16482,16483,16485,16486,16487
D476	1124,2832,16488,16489,16490,16491,16492,16493,16494,16495,16496
D477	16497,16498,16499,16500,16501
D478	739.2835
D479	740.741
D480	2836.16504
D481	742.16505
D482	16509.1651
D483	16514,16515,16516
D484	1693,1697,16520
D485	744,1292,2844,2845,2846,2847,2848,16521,16522
D486	746,747,748,749,750,751,1304,16526,16527,16528,16530,16531
D487	752.16532
D488	16534,16535,16536,16537,16538,16539,16540,16541,16542,16543,16545,16546,16547,16548
D489	2851.16549
D490	16550,16551,16552,16553,16555,16556,16557,16558,16559
D491	754.2852
D492	342,2853,16562
D493	16563.16564
D494	16569.1657
D495	108,1519,1597
D496	1952,1955,1958
D497	16574.16575
D498	16576,16577,16578
D499	1971.16581
D500	16587.16588
D501	16593.16594 .
D502	2868.16606
D503	16607,16608,16609
D504	1771,16610,16611
D505	1308,2870,2871
D506	16614.16615
D507	36,16619,16620
D508	2874.2875
D509	40.16629
D510	16630.16631
D511	764.765
D512	766,3767,3818
D513	768,2888,16647
D514	769,2892,2893
D515	1867,16657,16658
D516	1440.2896
D517	772.2898
D518	773,2900,16662,16663,16664
D519	774,16665,16666
D520	16668.16669
D521	16670,16671,16672,16673
D522	16677.16678
D523	16679.16681
D524	777.2902
D525	16683,16684,16685,16686,16687,16688,16689,16690,16691,16692,16693,16694,16695,16696
D526	2909,16705,16706,16707,16708,16710,16711,16712,16713,16714
D527	16719,16720,16721
D528	779.2911
D529	16723,16724,16725
D530	197,1712,16729,16730,16731,16732,16733,16735
D531	198.1711
D532	16738,16739,16740
D533	16746.16747
D534	16751.16752
D535	2921,16753,16754,16755
D536	2925,16758,16759,16760
D537	16762.16763
D538	16765,16766,16767,16768
D539	16775,16776,16777,16778,16779,16780,16781,16782,16783,16784,16785,16786
D540	2933,2934,2935,16787,16788,16791,16792,16793
D541	2937.16795
D542	788,16796,16797
D543	791,1261,1500,16798,16799,16800,16801,16802,16803,16804,16805,16806,16807

TABLE III
(Multivariant clusters)

Internal designation	Variants
D544	16812,16813,16814
D545	2945.2946
D546	797,1819,2949
D547	1741.1814
D548	2003.2004
D549	16825,16826,16827
D550	16831.16832
D551	801,16833,16834
D552	16835.16837
D553	1927.193
D554	803.804
D555	2967,16853,16854
D556	91.2968
D557	809.297
D558	62.64
D559	16868,16869,16870,16871,16872
D560	2975.16878
D561	817.1969
D562	818,819,2981,2982,16893
D563	1931.16897
D564	2985,16899,16900
D565	820.16901
D566	1687.16903
D567	119.16907
D568	826,2990,2991,2992
D569	1408.2001
D570	16912.16913
D571	351.16918
D572	200,354,831
D573	16919.16921
D574	16922.16923
D575	2043.2053

Internal designation	Variants
D576	16925,16926,16927,16928,16929,16930,16931,16932,16933,16934,16935,16936,16937,16938,16939,16940,16941,16942,16943,16944,16945,16946,16949,16950,16951,16952,16953,16954,16955,16956,16957,16958,16960,16961,16962,16963,16964,16965,16966,16967,16968,16969,16970,16971,16972,16973,16974,16975,16976,16977,16978,16979,16980,16981,16982,16983,16984,16985,16986,16987,16988,16989,16990,16991,16992,16993,16994,16995,16996,16997,16998,16999,17001,17002,17003,17004,17005,17006,17007,17008,17009,17010,17012,17013,17014,17015,17016,17017,17018,17019,17020,17021,17022,17023,17024,17025,17026,17027,17028,17029,17030,17031,17033,17034,17035,17036,17037,17038,17039,17040,17041,17042,17044,17045,17046,17047,17048,17049,17050,17051,17052,17053,17055,17056,17057,17058,17059,17060,17061,17062,17063,17064,17066,17067,17068,17069,17070,17071,17072,17073,17074,17075,17077,17078,17079,17080,17081,17082,17083
D577	3007,3008,3009
D578	833.17088
D579	17095,17096,17097
D580	835,2027,2052
D581	17103.17104
D582	17114.17115
D583	840.3024
D584	29.1341
D585	3027.1712
D586	843.844
D587	274.17124
D588	1795,17125,17126
D589	847.3031
D590	17141.17142
D591	17143,17144,17145,17146,17147,17148,17149,17151
D592	851.17154
D593	17159.1716
D594	3039.304
D595	17166.17167
D596	17168.17169
D597	3043,17170,17171,17172,17173
D598	1683.3047
D599	855,3050,3051

TABLE III
(Multivariant clusters)

Internal designation	Variants
D600	856.3052
D601	17182,17183,17184,17185
D602	17186,17187,17188
D603	279.857
D604	121.1469
D605	3057.17193
D606	861,3060,3061,3062,17197
D607	862.17199
D608	864,3064,17202
D609	865.866
D610	17205.17206
D611	3066,3067,17207,17208,17209
D612	867,868,17210
D613	3070.17213
D614	1682.3071
D615	230.1783
D616	17221,17222,17223
D617	1894,1895,1898
D618	1652.17228
D619	3085.17229
D620	17232.17233
D621	3087,3088,3089,3090,3091,3092,17234,17235
D622	872.1724
D623	873,874,3099,3100,3101,17252
D624	17257.17258
D625	17262.17263
D626	3105.3106
D627	17268,17269,17270,17271
D628	17272.17273
D629	17276.17277
D630	1914.1728
D631	17285.17286
D632	879,17291,17292
D633	1998,17294,17295
D634	17296.17297
D635	881,3115,17300,17301
D636	882.3116
D637	17302.17303
D638	3121,3122,17309
D639	17310,17311,17312,17313
D640	883,3124,3125
D641	59.6
D642	1918,17321,17322,17323
D643	888.889
D644	3133,3134,3135,3136
D645	3137.17335
D646	3138.17336
D647	1737,1744,3142,17339
D648	346,17343,17344
D649	17350.17351
D650	899,3156,17366
D651	3157,3159,3160,3161
D652	900.901
D653	17368.1737
D654	17371.17372
D655	3166.17374
D656	3169,3170,17378
D657	1996,1997,2012,3175
D658	3178,17379,17380
D659	3181.17381
D660	3182.17382
D661	17383.17384
D662	1973,17391,17392,17393
D663	1587,1591,1592,3188
D664	156.17402
D665	17405.17406
D666	17412,17413,17414,17415,17416,17417,17418,17419,17420,17421,17422,17423
D667	909.91
D668	3206.3207
D669	913,17442,17443,17444,17446,17447,17448,17449,17450,17451,17452,17453,17454,17455,17457
D670	17459.1746
D671	1485.17464
D672	914,2026,2058,3211,17465,17466,17467
D673	17469.1747
D674	17474.17475
D675	17477.17478
D676	17479.1748
D677	17481,17482,17483
D678	17485.17486
D679	918,919,17493
D680	17494.17495
D681	17497.17499
D682	17500,17501,17502,17503
D683	3222.17508
D684	17509.1751
D685	921.922
D686	3224.17516
D687	3225.3226

TABLE III
(Multivariant clusters)

Internal designation	Variants
D688	3230.3231
D689	17521.17522
D690	17523.17524
D691	17525,17526,17527
D692	3236,3237,3238
D693	3239,3240,3241
D694	17537.17538
D695	80,927,17547
D696	1379,1828,3248
D697	17553.17555
D698	3250,3251,3252,3253,3254,3255,3256,3257,17556,17557,17558,17559
D699	1345,1346,3262,3263,17571,17572,17573
D700	933.3264
D701	934,17579,17580,17582,17583,17584,17585
D702	1528.1554
D703	17589.1759
D704	17593.17594
D705	1393.17596
D706	17597.17598
D707	937.938
D708	17608,17609,17610
D709	939,940,17611,17612
D710	17624,17625,17626
D711	3272.17629
D712	1414.3273
D713	3275,3276,17631
D714	1843.3277
D715	946.947
D716	948.17637
D717	17644.17645
D718	3284.17647
D719	17652.17653
D720	17654.17655
D721	17658.17659
D722	17663.17664
D723	954.3289
D724	3290,3291,3292
D725	17666.17667
D726	17668,17669,17670,17672
D727	955,17673,17674,17675
D728	302,1878,1879,1886
D729	1599,17681,17682
D730	17683.17684
D731	17685,17686,17687
D732	17690.17691
D733	243.181
D734	17695.17696
D735	185.273
D736	17697.17698
D737	17699.17701
D738	3305.17702
D739	966.3307
D740	967.3309
D741	971,972,17708,17709
D742	974.17713
D743	1822,17715,17716,17717,17718
D744	3314.17721
D745	977.17727
D746	17728,17729,17730
D747	978.979
D748	1664,1667,1671
D749	980.17749
D750	17754,17755,17757
D751	17760,17761,17762,17763
D752	17765.17766
D753	77.79
D754	3323.17775
D755	262.319
D756	988.3325
D757	350.991
D758	17791.17792
D759	17796.17798
D760	3327.178
D761	3329.333
D762	3331.3332
D763	1561.1562
D764	996,17811,17812
D765	71,17813,17814
D766	17815.17816
D767	3343,3344,3346,3347,3348,17817,17818
D768	1953,1954,17819
D769	998.17822
D770	3352.17823
D771	17824.17826
D772	3354.3355
D773	1001.1718
D774	1002.17841
D775	17850.17851
D776	17853.17854

TABLE III
(Multivariant clusters)

Internal designation	Variants
D777	3362,3363,3364,3365,3366,3367
D778	1005,1006,1007,1008,1009,1010,1011,1012,1013,1014,1015,1016,1017,1018,1019,1020,1021,1022,1023,1024,1025,1026,1027,1028,1029,3368,3369,3370,3371,3372,3373,3374,3375,3376,3377,3378,17858,17860,17861,17863,17864,17866,17867
D779	17871.17872
D780	1384.17875
D781	1030.1031
D782	1032.3382
D783	17879.1788
D784	17881,17882,17883,17884,17885,17886
D785	17892.17895
D786	3384,17896,17897
D787	1630,17901,17902
D788	17905,17906,17907,17908,17909,17910
D789	17913.17914
D790	3388,17916,17917,17918
D791	17919,17920,17921,17922,17923,17924,17925,17926,17927,17928,17929,17930,17931,17932,17933,17934,17935,17936,17937,17938,17939,17940,17941,17942,17943,17944,17945,17946,17947,17948,17949
D792	3391.1796
D793	17962,17963,17964,17965,17966
D794	264,17972,17973,17974,17975,17976,17977
D795	17980.17981
D796	17986.17987
D797	1045.1046
D798	263,1050,1837,18000,18001
D799	1529.153
D800	18003.18004
D801	1858.18005
D802	18008.18009
D803	18018.18019
D804	18020,18021,18022
D805	18027.18028
D806	18042.18043
D807	3413.18045
D808	1537,18046,18047
D809	18050.18051
D810	344.1951
D811	18059.1806
D812	1060.18063
D813	240,1062,1063,1064,1066,1067,1068,1069,1070,1988,3421,3422,3423,3426,3427
D814	3428.18069
D815	3429.18072
D816	1071,3430,18073
D817	3431.3432
D818	18074.18076
D819	3433.18081
D820	1072.18084
D821	3434.18085
D822	1073,2009,3435,3436,3438,18087
D823	1989.18088
D824	1517.18098
D825	18104.18105
D826	18109.1811
D827	1076.18112
D828	3445.18114
D829	3446,18116,18117
D830	340.108
D831	18127.18128
D832	1081.18132
D833	1082.345
D834	1083,1084,1085,1086,1087,18135
D835	18139,18141,18142,18143,18144,18145,18146,18147,18149,18150,18151,18153,18154,18155,18156,18157,18159,18160,18161,18162,18163,18164,18165,18166,18168,18169,18171
D836	1089,3455,18176
D837	1090,1091,1092,1093,1094,1095,3456,3457,3458,3459,3461,18177,18178,18179,18180
D838	18182.18183
D839	18184.18185
D840	3462,18187,18188
D841	18191.18192
D842	278,282,283,1866,18194
D843	18196.18197
D844	202,1100,1101,1103,1105,1106,3466,3468,3469,18199,18200,18201,18202,18203,18204,18205,18206,18207,18208,18209,18211,18213,18214,18215,18216,18217
D845	3470.18221
D846	1107.1565
D847	3472,18226,18227,18228,18229
D848	18233.18234

TABLE III
(Multivariant clusters)

Internal designation	Variants
D849	3476,3477,18236
D850	18241,18242,18243
D851	3479.18244
D852	1903,18245,18246
D853	161.1825
D854	18251.18252
D855	18255.18256
D856	18257.18258
D857	3482,3483,3484,3485,3486,3487,3488,18262,18263
D858	18267.18268
D859	3490,3491,3492,18269
D860	18271.18272
D861	18275.18276
D862	1116,3493,3494,18279
D863	18285.18286
D864	18289,18290,18291
D865	1118,3496,18292,18293
D866	3498.18295
D867	1120.18299
D868	18301.18302
D869	18305.18306
D870	1123,3501,3502,3503,18311,18312,18313,18314
D871	18315.18316
D872	1127.3506
D873	18328,18329,18330
D874	18332,18333,18334
D875	3509,3510,3511,18340
D876	18342.18343
D877	3514,3515,18347
D878	1131.18348
D879	1665.1668
D880	18354,18355,18356
D881	168.18359
D882	18362,18364,18365,18366,18369,18370
D883	18372,18373,18374
D884	18375.18376
D885	1137.3522
D886	18390.18391
D887	18392.18393
D888	18397.18398
D889	3526.18404
D890	18409.1841
D891	1142,18412,18413,18414
D892	3530.18418
D893	18423.18425
D894	1501.18427
D895	1472.1478
D896	1143.1843
D897	173,1677,1680
D898	18432,18433,18434
D899	18436.18437
D900	18442,18443,18444,18445
D901	1541,1542,1545,1546,18450,18451,18452,18453,18454,18455,18456,18457
D902	18459.1846
D903	1149,3546,3547
D904	18465.18466
D905	3552,18467,18468
D906	18469.1847
D907	1350.18472
D908	3555.3556
D909	18479,18480,18481
D910	222.1884
D911	1154.2045
D912	18482.18483
D913	3560.18486
D914	18488.18489
D915	1156.18492
D916	18494,18495,18496
D917	18501.18502
D918	18503.18504
D919	1157.3562
D920	1158,18507,18508,18509,18510,18511
D921	3565.3566
D922	1161,1162,1163,1164,1165,1166,1167,1963,3568,3569,3571,3572,18515,18516,18517,18518,18519,18520,18521,18522,18523,18524,18525,18526,18527,18528,18529,18530,18531,18532,18533,18534,18536,18537,18538,18539,18540,18541,18542,18543,18544,18545,18546
D923	1168,18548,18549,18550
D924	92.1658
D925	1170,3578,18551
D926	1552,1856,1871,1974,3581,3582,3584,3586,18553,18554
D927	1171.3587
D928	18562.18564
D929	18569,18570,18571,18572,18573
D930	1177.18575

TABLE III
(Multivariant clusters)

Internal designation	Variants
D931	1178.18577
D932	1180,3593,18580
D933	1181.18583
D934	1659,18584,18585
D935	18586,18587,18588
D936	1182.3597
D937	3598.18589
D938	18594.18595
D939	3600.3601
D940	1184,3602,3603
D941	1185,3604,3605,3606
D942	1187.3607
D943	1188.18598
D944	1194.18604
D945	3612,3613,18606,18607
D946	3614.18609
D947	18610.18611
D948	1195.18614
D949	1196.18615
D950	18616.18617
D951	1808,3618,3620,18620
D952	1493.18621
D953	1199.18623
D954	18624,18625,18626,18627,18629
D955	1606,1607,18631,18632,18633,18634,18635
D956	3627,18638,18639
D957	1203,1204,1205,1923,18642
D958	293.3631
D959	1487.18645
D960	1377,18646,18647,18648
D961	1355.18649
D962	1208.1209
D963	221,18654,18655,18656
D964	3640,3641,3642,18660
D965	3644.18662
D966	3645.18663
D967	18664.18665
D968	18666.18667
D969	35,1343,18671
D970	18672.18673
D971	18680.18681
D972	18683.18684
D973	1732,3653,3655
D974	1216.18689
D975	1217,3656,3657

Internal designation	Variants
D976	1223,1224,1225,1227,3659,3660,3661,3665,3667,3669,18691,18693,18694,18695,18696,18697,18698,18699,18701,18702,18703,18704,18705,18707,18708,18709,18710,18711,18712,18713,18714,18715,18716,18717,18718,18719,18720,18722,18723,18724,18725,18727,18728,18729,18730,18731,18732,18733,18734,18736,18737,18738,18739,18741,18742,18744,18745,18746,18747,18748,18749,18750,18751,18753,18754,18755,18757,18758,18760,18761,18762,18764,18765,18767,18768,18769,18770,18771,18772,18774,18775,18776,18777,18778,18781,18782,18783,18784,18785,18786,18787,18788,18790
D977	3670,3671,3672,3673,3674,3675
D978	18795.18796
D979	3676.18797
D980	3678.18799
D981	1375,18816,18818,18819,18820
D982	1522.1526
D983	18822,18823,18824
D984	1231.369
D985	1232,1604,1698,3693,3694,3696
D986	18835.18836
D987	1921.18837
D988	18840.18841
D989	3701.3702
D990	3703.3704
D991	1236.1237
D992	1238,1891,18847
D993	1239,1240,3708,3709,18848
D994	3712,3713,3714,18852,18853,18854,18855,18856,18857,18858
D995	3715,3716,3717,3718,18860
D996	3719.372
D997	18864.18865
D998	18866.18867
D999	18870,18871,18872,18873,18874
D1000	18877,18878,18879
D1001	18880.18881
D1002	3730.18894
D1003	3731,3732,18895
D1004	3734,18897,18898,18899
D1005	1563,1564,1566
D1006	3738.3739

TABLE III
(Multivariant clusters)

Internal designation	Variants
D1007	1251,1252,1253,1254,1255,1256,1257,2044,3743,18906,18907
D1008	1258.1259
D1009	311,3744,3745,18911,18913,18915
D1010	1262,1263,18916
D1011	3748.18918
D1012	18921,18924,18927
D1013	3750.3751
D1014	45,1366,18930
D1015	18931.18932
D1016	3754,3755,18934,18936,18937,18938,18939
D1017	18941.18942
D1018	3756,18943,18944
D1019	1267.1268
D1020	3758,18946,18947
D1021	18948.18949
D1022	1270,1271,1272,18950,18951,18952
D1023	3762,18954,18955
D1024	215,3763,3764,18957,18958,18959,18960
D1025	18961,18962,18963
D1026	18964.18965
D1027	1275.377
D1028	18968.18969
D1029	3771,18971,18972,18973
D1030	3775.18983
D1031	1276,1277,1278
D1032	1279.3776
D1033	3778.18986
D1034	18987.18988
D1035	18989.1899
D1036	18992,18993,18994,18995,18996,18997
D1037	3782.3783
D1038	19000.19001
D1039	19002.19003
D1040	196.272
D1041	3792,3793,3794,3795,3797,3798,3799,19012,19013,19014,19015,19016,19018
D1042	3801.3802
D1043	19023.19024
D1044	1290.19027
D1045	167,365,1421,19031,19032,19033,19034
D1046	19035.19036
D1047	19037,19039,19040,19041

Internal designation	Variants
D1048	1293.19042
D1049	1296,1632,1635
D1050	19045,19046,19047
D1051	1300.381
D1052	19059,19060,19061
D1053	3813,3814,3815
D1054	19065,19066,19067
D1055	19068,19069,19071,19072
D1056	3816.19073
D1057	3817,19074,19075,19076
D1058	3819.382
D1059	3822.19079
D1060	19081.19082
D1061	19083.19084
D1062	1305,1970,19093
D1063	19095,19096,19097,19098,19099,19100
D1064	1734.3828
D1065	1309,1310,3832
D1066	19115.19116
D1067	19117,19118,19119
D1068	19122,19123,19124
D1069	1314,19125,19126
D1070	1315,3837,19134
D1071	3839.384
D1072	1705.1748
D1073	1317,1750,2006,3846,3847,19140
D1074	3848,3849,3850,3851,3852,3853,3854,3855,3856,3857,3858,3859
D1075	19143.19144
D1076	19151,19152,19153,19154,19155,19156,19157,19158,19160
D1077	19161.19162
D1078	1322,1323,1324,1325,19169,19171,19172,19173
D1079	1326,19175,19176
D1080	19182.19183
D1081	3870,3871,19191

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
24	[1-342]	91	[1-97]
25	[1-47]	92	[1-586]
30	[1-54]	93	[1-311]
31	[1-506]	94	[1-26],[86-452]
32	[1-44]	95	[1-326]
33	[1-479]	96	[1-383]
35	[361-386]	97	[1-672]
36	[1-245]	98	[1-130],[384-451]
38	[1-491]	100	[1-498]
39	[1-678]	102	[1-248]
41	[279-353],[415-442]	103	[1-351]
43	[1-512]	104	[1-356]
44	[1-339]	105	[1-278]
45	[1-67],[516-544]	106	[1-104],[288-345]
46	[1-484]	107	[1-492]
47	[1-495]	108	[1-38],[235-301]
48	[1-308],[397-535]	109	[1-500]
49	[1-432]	110	[542-570]
50	[1-410]	111	[1-584]
51	[46-465]	112	[1-79]
54	[1-505]	113	[1-402]
55	[1-546]	114	[368-525]
56	[1-507]	115	[1-480]
57	[1-480]	116	[1-496]
58	[1-392]	117	[1-36]
59	[1-273]	118	[1-497]
60	[1-273]	119	[1-542]
63	[1-343]	121	[1-466]
65	[1-174]	123	[289-465]
66	[390-481]	124	[1-488]
67	[1-478]	125	[1-493]
68	[1-323]	126	[1-297]
69	[1-443]	127	[1-463]
71	[1-329]	128	[1-554]
72	[1-488]	129	[1-180],[421-467]
73	[169-268]	130	[1-457]
74	[1-417]	131	[1-392]
75	[1-420]	132	[1-477]
76	[1-486]	134	[1-422]
78	[1-793]	135	[85-286],[327-462],[498-570]
80	[1-308]	136	[1-44]
82	[1-570]	137	[1-502]
86	[1-516]	138	[1-495]
87	[1-674]	139	[1-646]
88	[1-402]	140	[1-36]
89	[1-473]	141	[1-456]
90	[1-474]	142	[1-488]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
143	[1-219]
144	[1-524]
145	[1-39],[73-514]
146	[1-525]
147	[1-438]
148	[1-265]
149	[1-256]
150	[1-320]
151	[1-512]
153	[1-501]
154	[1-225]
156	[1-156]
158	[1-198]
159	[1-72],[406-533]
161	[1-307]
162	[1-721]
163	[1-495]
165	[1-594]
166	[1-501]
168	[141-195]
169	[66-148]
170	[1-542]
171	[1-528]
172	[1-450]
173	[147-305]
174	[1-514]
175	[161-286]
176	[1-501]
177	[1-31]
178	[1-542]
179	[1-194],[278-303]
180	[1-504]
181	[1-35]
182	[1-509]
183	[1-501]
184	[1-466]
186	[1-485]
187	[1-197],[486-521]
188	[1-332]
189	[1-262]
190	[1-79],[258-552]
191	[121-164]
192	[1-249]
193	[1-324]
194	[1-334]
195	[1-337]
197	[1-49]

Seq Id No.	Positions of preferred fragments
198	[1-178],[293-471]
200	[1-391],[523-829]
201	[247-477]
203	[1-451]
204	[1-505]
205	[1-277]
206	[1-701]
207	[450-499]
208	[1-485]
209	[1-458]
210	[1-173]
211	[1-481]
212	[1-452]
213	[1-472]
214	[1-191]
215	[1-321]
216	[1-472]
217	[1-461]
220	[93-480]
222	[1-46],[383-483]
223	[451-490]
224	[1-492]
225	[1-37]
227	[1-524]
229	[1-55]
230	[1-306]
231	[1-35],[238-308]
233	[80-253]
234	[1-405]
235	[1-594]
236	[1-400]
237	[1-481]
238	[1-663]
239	[1-540]
240	[1-559]
241	[1-479]
242	[1-516]
243	[1-558]
244	[1-478]
245	[1-438]
246	[1-451]
247	[1-458]
248	[1-473]
249	[1-322]
250	[1-548]
251	[1-453]
252	[541-578]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
253	[1-672]
254	[1-368]
256	[158-476]
257	[1-506]
258	[1-447]
260	[1-467]
261	[1-508]
262	[1-477]
263	[1-238]
264	[1-571]
265	[1-155],[271-497]
267	[69-483]
274	[1-473]
275	[1-27],[65-212]
276	[364-469]
278	[1-472]
282	[1-490]
283	[1-479]
284	[1-489]
285	[1-466]
286	[1-451]
287	[1-609]
288	[1-296]
289	[1-503]
290	[1-386]
291	[1-499]
293	[1-112],[384-432]
295	[1-322]
296	[1-40]
297	[1-496]
298	[1-451]
300	[1-53],[138-248]
301	[1-92],[319-378]
302	[1-483]
303	[1-496]
305	[1-522]
306	[1-140]
307	[1-25]
309	[1-483]
310	[1-467]
312	[1-88],[334-493]
313	[1-163],[442-570]
314	[1-386]
315	[32-128],[160-482]
317	[1-92],[371-460]
318	[1-557]
319	[1-587]

Seq Id No.	Positions of preferred fragments
322	[251-462]
323	[50-235]
324	[1-496]
325	[1-520]
326	[251-417]
327	[1-292]
328	[1-179],[435-515]
330	[1-26]
333	[1-496]
334	[1-461]
335	[251-475]
337	[1-638]
340	[1-286],[346-511]
341	[1-487]
342	[1-79],[138-460]
343	[1-452]
344	[1-478]
345	[40-142]
346	[1-537]
347	[1-488]
348	[1-470]
349	[1-564]
350	[1-494]
351	[1-520]
352	[1-490]
353	[1-491]
354	[1-59],[286-363]
356	[1-522]
357	[1-485]
358	[1-470]
359	[1-332]
361	[1-737]
362	[410-470]
363	[1-451]
364	[1-488]
366	[1-455]
367	[1-494]
369	[1-482]
370	[1-513]
371	[1-437]
372	[1-394]
373	[1-474]
374	[1-319]
375	[1-429]
376	[1-524]
377	[1-459]
378	[1-284]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
379	[1-496]	436	[1-64],[352-493]
380	[1-54],[422-495]	437	[1-457]
382	[1-300]	438	[1-343]
383	[1-569]	439	[1-428]
384	[1-480]	440	[1-537]
385	[1-421]	441	[1-28],[113-197]
386	[1-498]	442	[1-502]
387	[1-497]	443	[1-467]
388	[1-474]	444	[1-464]
389	[127-320]	445	[1-382]
390	[1-42]	446	[1-476]
391	[1-457]	447	[1-505]
392	[1-309]	448	[1-495]
393	[1-349]	449	[1-503]
395	[1-409]	450	[1-461]
397	[1-443]	451	[1-507]
398	[1-574]	452	[1-480]
399	[1-114]	453	[1-511]
400	[75-456]	454	[150-493]
401	[1-482]	455	[1-46]
402	[200-227]	456	[1-483]
404	[1-417]	457	[1-100]
406	[1-207],[330-450]	458	[1-378]
407	[1-510]	459	[1-517]
408	[1-435]	461	[1-528]
409	[1-485]	463	[1-323]
410	[1-37]	465	[227-303]
411	[1-482]	466	[1-497]
412	[1-482]	467	[439-480]
413	[1-419]	469	[1-388]
414	[1-463]	470	[1-478]
415	[1-219]	471	[1-467]
416	[1-460]	472	[1-33]
417	[1-474]	473	[1-550]
419	[1-172]	474	[1-303]
420	[1-505]	475	[1-169]
421	[1-504]	476	[1-471]
425	[1-407]	477	[1-252]
426	[282-324]	478	[1-472]
427	[1-322]	479	[1-510]
428	[1-498]	480	[1-505]
430	[1-83],[411-469]	482	[1-286]
431	[1-464]	483	[1-451]
432	[1-494]	484	[161-244]
433	[1-413]	485	[1-482]
434	[1-323]	486	[1-81],[156-383]
435	[1-548]	487	[1-370]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
489	[1-234]	542	[1-455]
490	[1-458]	543	[1-469]
491	[1-457]	544	[77-490]
492	[1-486]	545	[1-467]
493	[1-452]	546	[1-454]
494	[1-295]	547	[1-485]
495	[1-63]	548	[1-526]
496	[1-83],[252-468]	549	[1-484]
497	[1-481]	550	[1-457]
498	[1-296]	551	[1-527]
499	[1-422]	552	[1-27]
500	[1-461]	553	[1-513]
501	[1-506]	554	[1-463]
502	[34-427]	555	[1-232]
504	[1-489]	556	[1-491]
505	[1-237],[287-374]	557	[1-474]
506	[207-458]	558	[1-471]
508	[1-473]	559	[1-384]
509	[1-469]	560	[1-470]
510	[1-486]	561	[137-504]
512	[1-270]	563	[1-373]
513	[1-470]	564	[1-481]
514	[1-383],[425-453]	565	[1-492]
515	[1-480]	566	[1-509]
516	[1-496]	567	[1-479]
517	[1-478]	568	[33-110],[139-361],[431-468]
518	[1-458]	569	[1-375]
519	[1-560]	570	[1-486]
520	[1-465]	571	[49-601]
521	[1-181]	572	[1-253]
522	[1-278]	573	[1-496]
523	[1-417]	574	[277-317]
524	[1-466]	575	[1-161]
525	[1-469]	576	[1-134]
526	[1-240]	577	[1-507]
528	[1-457]	578	[1-223]
529	[1-495]	579	[1-510]
531	[1-467]	580	[263-412]
532	[1-487]	581	[1-480]
533	[1-491]	582	[1-509]
534	[1-193]	583	[1-458]
535	[1-395]	584	[1-538]
536	[1-248]	585	[1-42],[145-513]
537	[1-501]	586	[1-531]
538	[1-225]	587	[1-329]
539	[1-401]	588	[1-491]
540	[285-472]	589	[1-525]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
590	[1-452]
591	[1-523]
592	[1-470]
593	[1-95]
594	[160-238]
595	[1-374]
596	[1-460]
597	[1-461]
598	[188-263]
600	[1-505]
601	[1-169]
602	[1-247]
604	[184-416]
605	[1-92]
607	[1-448]
608	[1-208]
609	[35-246]
610	[62-159]
611	[1-459]
612	[1-148]
613	[1-26]
614	[1-506]
615	[1-488]
616	[1-481]
617	[1-494]
618	[1-358]
619	[1-208]
620	[1-208]
621	[1-278]
622	[1-476]
623	[1-83]
624	[1-448]
626	[1-463]
627	[1-487]
628	[1-31]
629	[1-478]
631	[1-458]
632	[1-502]
633	[1-485]
634	[1-464]
635	[1-494]
636	[1-480]
639	[1-469]
640	[1-217]
641	[1-458]
642	[321-497]
643	[1-272]
645	[1-322]
646	[1-336]
647	[1-368]
648	[1-483]
649	[1-511]
650	[1-138],[175-489]
651	[1-295]
653	[1-519]
654	[1-294]
656	[1-486]
657	[1-510]
658	[1-553]
660	[1-460]
661	[1-451]
662	[1-487]
663	[1-458]
664	[1-535]
665	[1-488]
666	[1-539]
667	[54-490]
668	[1-152],[289-498]
669	[1-540]
670	[1-497]
671	[1-506]
673	[1-35],[64-192]
674	[1-469]
675	[1-491]
676	[1-429]
677	[1-497]
678	[1-473]
679	[1-39]
681	[1-399]
682	[1-508]
683	[1-535]
684	[1-308]
685	[1-452]
686	[1-120]
687	[1-497]
688	[1-499]
689	[1-467]
690	[179-523]
691	[1-473]
692	[1-503]
693	[1-457]
694	[1-114],[276-541]
695	[1-339]
696	[1-172]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
697	[1-95]
698	[1-435]
699	[1-518]
700	[1-387]
701	[94-332],[442-487]
702	[1-480]
703	[1-496]
704	[1-35],[462-492]
705	[1-479]
706	[1-369]
707	[1-401]
708	[1-501]
709	[1-170],[359-400]
710	[1-318],[427-472]
711	[1-169]
712	[455-484]
713	[1-490]
714	[1-28]
715	[1-525]
716	[1-454]
717	[1-452]
720	[94-469]
721	[1-191]
722	[1-560]
725	[97-148]
727	[1-145]
728	[249-478]
729	[1-289]
731	[1-329]
732	[1-380]
733	[1-381]
734	[1-280]
737	[1-474]
738	[1-378]
740	[1-95],[363-454]
741	[1-103],[371-463]
742	[1-503]
743	[1-327]
745	[1-473]
746	[1-519]
747	[63-442]
748	[63-442]
749	[63-454]
750	[63-459]
751	[63-442]
754	[1-487]
755	[138-499]

Seq Id No.	Positions of preferred fragments
757	[1-90],[462-494]
758	[1-392]
759	[1-169]
760	[1-467]
761	[1-91]
762	[1-28]
763	[223-345]
764	[1-472]
765	[1-457]
766	[460-492]
769	[65-132],[286-327]
770	[1-477]
771	[1-60],[92-506]
772	[1-376]
773	[1-224],[392-440]
774	[1-498]
775	[1-498]
776	[1-487]
777	[1-452],[629-748]
778	[1-250],[473-589]
779	[1-471]
780	[1-80],[223-264],[530-704]
781	[1-133]
782	[1-487]
783	[134-516]
784	[1-468]
785	[1-515]
786	[1-516]
787	[1-476]
788	[410-618]
789	[1-169]
790	[439-494]
791	[1-464]
792	[1-484]
793	[1-130],[169-492]
794	[410-453]
796	[1-489]
798	[1-478]
800	[1-198],[263-577]
801	[1-194]
803	[1-466]
804	[1-448]
805	[1-484]
806	[1-47],[132-510]
807	[1-474]
809	[1-96]
810	[1-207]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
811	[1-38],[179-323],[410-451]
812	[1-258]
814	[1-484]
815	[1-543]
816	[1-480]
817	[1-507]
818	[1-69]
820	[1-332]
821	[1-409]
822	[1-169]
826	[1-331]
828	[1-316]
829	[1-482]
831	[1-58]
832	[1-494]
833	[1-497]
834	[1-650]
835	[1-259]
836	[1-486]
837	[1-221]
838	[1-225]
840	[1-510]
841	[1-344]
842	[1-513]
843	[1-536]
844	[1-526]
845	[1-58]
846	[1-170]
847	[1-471]
848	[1-269]
849	[1-518]
850	[1-475]
851	[1-492]
852	[1-474]
853	[1-290],[471-546]
854	[1-241]
855	[1-484]
858	[1-514]
859	[1-481]
860	[1-508]
861	[1-535]
862	[1-504]
863	[1-403]
864	[1-56]
865	[1-557]
866	[1-537]
867	[1-496]
868	[1-491]
869	[131-353]
870	[1-209],[261-516]
871	[1-183]
872	[1-348]
873	[331-365],[510-542]
874	[304-339]
875	[1-169]
877	[1-246]
878	[1-473]
879	[1-486]
880	[1-464]
882	[1-489]
883	[1-504]
884	[1-348]
885	[1-484]
886	[1-499]
887	[1-455]
888	[1-452]
889	[1-94],[124-489]
890	[1-493]
891	[1-408]
892	[1-517]
893	[1-479]
894	[1-257],[477-548]
895	[1-499]
896	[1-323]
898	[1-453]
900	[1-422]
901	[1-359]
902	[1-498]
903	[1-363]
904	[1-539]
905	[1-170]
906	[1-485]
907	[1-464]
908	[1-469]
909	[1-707]
910	[1-604]
911	[260-286],[345-452]
912	[1-173]
913	[1-413]
914	[226-347]
916	[1-492]
918	[332-462]
919	[332-517]
920	[1-356]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
921	[1-526]	974	[1-282]
922	[1-478]	975	[1-229]
923	[1-474]	976	[1-479]
924	[1-434]	977	[1-514]
925	[1-523]	978	[39-266]
926	[1-522]	980	[1-85]
927	[1-358]	981	[1-503]
929	[1-247]	982	[1-31]
930	[60-196]	983	[1-414]
931	[1-458]	984	[1-540]
932	[1-529]	985	[1-482]
935	[1-404]	986	[1-488]
936	[1-504]	987	[1-429]
937	[1-602]	988	[1-492]
938	[1-495]	989	[1-509]
939	[1-521]	990	[283-383]
940	[1-539]	991	[1-551]
941	[1-557]	992	[268-549]
942	[1-479]	993	[1-508]
943	[1-476]	995	[1-229]
944	[1-529]	996	[1-229]
945	[1-605]	1000	[1-319]
946	[1-488]	1001	[1-490]
947	[1-285]	1002	[1-584]
948	[1-345]	1003	[1-520]
949	[1-557]	1004	[1-490]
951	[94-515]	1005	[1-452]
952	[1-131]	1006	[1-348]
953	[1-260]	1007	[1-460]
954	[105-148]	1008	[1-443]
955	[1-506]	1009	[1-425]
956	[1-267]	1010	[1-508]
957	[435-628]	1011	[1-468]
958	[1-525]	1012	[1-429]
960	[1-502]	1013	[1-494]
961	[1-525]	1014	[1-252]
962	[1-444]	1015	[1-429]
964	[1-384],[413-457]	1016	[63-413]
965	[1-498]	1017	[63-430]
966	[1-119],[162-311]	1018	[1-509]
967	[1-43]	1019	[1-516]
968	[1-549]	1020	[1-507]
969	[1-120]	1021	[1-411]
970	[1-459]	1022	[1-487]
971	[1-492]	1023	[1-480]
972	[1-471]	1024	[1-443]
973	[35-181]	1025	[1-440]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1026	[1-464]
1027	[63-524]
1028	[1-381]
1029	[1-418]
1030	[1-474]
1031	[1-556]
1032	[1-537]
1033	[1-425]
1034	[1-462]
1035	[1-455]
1036	[1-447]
1038	[1-56]
1040	[1-357]
1041	[1-454]
1042	[1-479]
1043	[1-45]
1044	[41-516]
1045	[1-231]
1046	[1-236]
1047	[1-177]
1049	[1-470]
1050	[1-238],[474-531]
1051	[46-516]
1056	[1-486]
1057	[1-422]
1058	[1-450]
1059	[1-567]
1060	[1-452]
1061	[1-92]
1062	[1-402]
1063	[1-468]
1064	[1-557]
1066	[1-315]
1067	[1-483]
1068	[1-379]
1069	[1-506]
1070	[1-493]
1071	[1-52],[413-529]
1072	[1-396]
1073	[1-327]
1074	[1-564]
1075	[1-492]
1076	[1-74]
1077	[1-521]
1080	[1-287],[347-509]
1081	[1-190],[292-444]
1082	[1-480]

Seq Id No.	Positions of preferred fragments
1083	[1-184]
1084	[56-91],[166-418]
1086	[165-415]
1088	[1-33],[150-188]
1089	[1-52]
1091	[1-625]
1092	[1-484]
1093	[1-495]
1094	[1-513]
1096	[204-353],[386-439]
1097	[1-550]
1098	[1-517]
1099	[1-485]
1102	[1-88]
1104	[1-487]
1107	[1-361]
1108	[1-526]
1109	[1-194]
1110	[1-523]
1113	[179-484]
1114	[1-220]
1115	[222-261]
1116	[1-367]
1117	[1-523]
1118	[1-135],[176-406]
1120	[1-51]
1121	[1-284]
1122	[1-559]
1123	[1-399]
1124	[1-551]
1125	[1-484]
1126	[1-533]
1128	[1-502]
1129	[1-427]
1131	[1-93],[439-471]
1132	[1-528]
1133	[1-349]
1135	[1-564]
1136	[1-522]
1137	[1-524]
1138	[1-356]
1139	[1-165]
1140	[1-479]
1141	[1-494]
1142	[1-29],[149-219],[360-393]
1143	[1-510]
1144	[1-468]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
1145	[1-239]	1205	[1-42],[256-286]
1147	[1-100]	1206	[1-153]
1149	[1-505]	1208	[1-457]
1151	[1-529]	1209	[1-487]
1152	[1-371]	1210	[1-601]
1153	[1-452]	1211	[1-561]
1154	[1-223],[429-455]	1212	[1-454]
1155	[1-459]	1213	[1-243]
1156	[1-494]	1214	[48-268]
1157	[1-557]	1215	[1-357]
1158	[349-458]	1216	[1-505]
1159	[1-482]	1218	[1-455]
1160	[233-536]	1219	[1-453]
1161	[1-402],[464-507]	1220	[1-453]
1162	[1-401]	1222	[1-460]
1163	[1-401],[456-488]	1226	[1-202]
1164	[1-405],[467-491]	1228	[1-594]
1165	[1-362]	1229	[1-579]
1166	[1-402],[464-488]	1231	[1-517]
1167	[1-400]	1232	[1-318]
1168	[257-322]	1233	[1-42],[137-248]
1169	[1-388]	1234	[1-127],[183-489]
1172	[1-564]	1235	[1-317]
1173	[1-469]	1236	[1-485]
1174	[1-498]	1237	[1-455]
1177	[1-364]	1238	[376-536]
1179	[1-915]	1239	[1-468]
1180	[58-557]	1240	[1-567]
1181	[1-235]	1242	[1-409]
1183	[1-436]	1244	[1-563]
1184	[1-486]	1245	[1-241]
1186	[75-189],[301-338],[483-548]	1246	[1-194]
1187	[1-510]	1247	[1-504]
1188	[1-472]	1248	[1-365]
1190	[1-536]	1249	[1-468]
1191	[1-476]	1250	[1-537]
1192	[1-553]	1251	[1-568]
1193	[1-574]	1252	[1-492]
1194	[1-469]	1253	[1-528]
1195	[1-479]	1254	[1-515]
1198	[1-461]	1255	[1-512]
1199	[1-62]	1256	[1-481]
1200	[1-486]	1257	[1-484]
1201	[1-208]	1258	[1-170]
1202	[1-512]	1259	[342-386]
1203	[1-42],[123-148],[255-285]	1260	[67-371],[450-554]
1204	[138-163],[270-300]	1261	[1-651]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1262	[1-97],[168-491]
1264	[1-490]
1265	[1-540]
1266	[1-308]
1267	[1-516]
1268	[1-612]
1270	[1-210]
1271	[1-311]
1272	[1-249]
1273	[1-435]
1274	[1-227]
1275	[123-519]
1276	[1-540]
1277	[1-496]
1278	[1-487]
1279	[1-315],[420-482]
1281	[1-75]
1282	[1-512]
1283	[1-519]
1284	[1-476]
1285	[1-77]
1287	[1-490]
1288	[1-74]
1289	[1-420]
1290	[1-512]
1291	[1-527]
1293	[1-308],[390-484]
1294	[1-366]
1295	[1-467]
1296	[1-263]
1297	[1-27]
1300	[45-562]
1305	[1-375]
1307	[1-485]
1308	[267-339]
1309	[1-450]
1310	[1-459]
1311	[1-487]
1312	[1-516]
1313	[1-471]
1314	[221-504]
1315	[1-492]
1316	[1-333]
1317	[446-471]
1318	[44-144],[331-505]
1319	[1-562]
1322	[1-221]
1323	[1-204]
1324	[1-240]
1325	[1-212]
1326	[448-511]
1327	[451-480]
1328	[1-472]
1329	[1-453]
1330	[1-498]
1331	[1-86]
1332	[1-477]
1333	[1-349]
1334	[1-394]
1335	[1-341]
1336	[1-318]
1337	[1-480]
1338	[30-212]
1342	[1-464]
1345	[121-225],[255-645]
1346	[121-225],[255-422]
1347	[1-169]
1348	[1-86]
1351	[1-262]
1352	[1-452]
1354	[1-511]
1355	[1-619]
1356	[1-1108]
1357	[1-380]
1358	[1-523]
1360	[1-486]
1362	[1-642]
1363	[1-469]
1364	[1-489]
1365	[1-567]
1366	[1-67]
1368	[1-498]
1369	[1-232]
1372	[1-514]
1374	[1-514]
1375	[1-490]
1378	[433-462]
1379	[1-34],[443-503]
1380	[1-475]
1381	[271-470]
1382	[1-579]
1383	[1-362]
1384	[1-902]
1385	[1-471]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
1388	[451-492]	1448	[1-461]
1389	[1-40]	1449	[1-240]
1391	[1-803]	1450	[1-239]
1392	[1-540]	1451	[1-240]
1393	[1-137]	1452	[1-239]
1395	[306-340]	1453	[1-686]
1396	[1-510]	1455	[1-506]
1398	[1-490]	1456	[1-491]
1399	[1-227],[311-477]	1457	[1-487]
1400	[1-428]	1458	[318-437]
1401	[293-426]	1459	[1-522]
1402	[1-496]	1460	[1-379]
1403	[474-524]	1461	[1-474]
1404	[1-484]	1463	[1-830]
1405	[1-481]	1465	[573-623]
1406	[1-769]	1466	[211-411]
1407	[1-568]	1469	[1-481]
1410	[1-552]	1470	[1-505]
1411	[1-470]	1472	[1-72]
1413	[1-273]	1473	[1-76]
1414	[1-504]	1475	[1-472]
1415	[1-80],[114-583]	1476	[1-486]
1417	[1-420]	1477	[1-1111]
1418	[1-30],[417-498]	1478	[1-72],[450-516]
1419	[1-173],[479-525]	1479	[1-532]
1420	[1-490]	1482	[1-415]
1422	[1-520]	1485	[1-190],[440-512]
1423	[1-476]	1486	[1-480]
1425	[180-544]	1489	[1-436]
1426	[1-386],[469-554]	1490	[1-678]
1428	[1-325]	1491	[1-278],[308-453]
1429	[1-540]	1492	[1-483]
1430	[1-495]	1493	[1-496]
1431	[144-494]	1495	[1-427]
1434	[1-500]	1496	[1-266],[306-510]
1435	[1-216],[284-325],[379-510]	1497	[494-540]
1436	[123-255]	1498	[1-776]
1437	[107-497]	1499	[1-334]
1438	[1-336]	1500	[1-454]
1440	[293-339]	1501	[1-435]
1441	[1-343]	1502	[1-270]
1442	[1-523]	1503	[1-372]
1443	[1-466]	1504	[1-374]
1444	[1-54],[240-401],[436-510]	1505	[1-517]
1445	[1-239]	1506	[1-524]
1446	[1-484]	1509	[1-459]
1447	[1-26],[318-364]	1510	[1-433]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1511	[1-537]
1514	[1-509]
1516	[1-543]
1517	[1-362],[623-752]
1519	[1-63]
1520	[1-426]
1521	[1-324]
1522	[1-501]
1523	[1-498]
1524	[1-444]
1525	[1-512]
1526	[1-589]
1527	[1-566]
1528	[1-225]
1529	[1-511]
1530	[1-547]
1532	[331-372]
1533	[279-327],[436-509]
1534	[1-502]
1535	[1-597]
1536	[156-492]
1537	[1-452]
1538	[1-496]
1539	[1-501]
1540	[1-524]
1541	[1-268]
1542	[1-215]
1543	[1-923]
1544	[1-463]
1545	[1-218]
1546	[1-213]
1547	[1-465]
1548	[1-496]
1549	[1-425]
1550	[1-544]
1551	[1-508]
1552	[1-44]
1553	[1-679]
1554	[1-225],[315-357]
1555	[417-546]
1556	[1-430]
1557	[1-492]
1558	[1-540]
1559	[1-490]
1561	[1-466]
1562	[1-525]
1563	[1-515]

Seq Id No.	Positions of preferred fragments
1564	[1-522]
1565	[1-335]
1566	[1-474]
1567	[443-521]
1568	[1-42],[303-386]
1569	[1-673]
1571	[1-482]
1572	[1-322]
1573	[1-502]
1574	[1-566]
1576	[1-529]
1577	[1-62]
1579	[1-494]
1580	[1-510]
1582	[1-487]
1583	[1-455]
1584	[1-501]
1585	[1-492]
1587	[159-237]
1588	[1-484]
1590	[1-360]
1591	[1-36]
1592	[1-36],[471-518]
1593	[1-611]
1595	[95-467]
1596	[1-28],[70-112],[164-254],[305-391],[423-541]
1597	[1-27]
1598	[1-502]
1601	[1-465]
1603	[1-88]
1604	[1-206],[289-678]
1605	[164-200]
1606	[1-141]
1607	[482-506]
1608	[1-355]
1609	[1-453]
1610	[1-491]
1611	[252-354]
1612	[1-311]
1615	[1-513]
1616	[1-954]
1617	[1-441]
1618	[1-461]
1619	[1-468]
1620	[82-113]
1622	[1-526]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1623	[1-513]
1624	[1-477]
1625	[1-396]
1626	[1-463]
1627	[1-508]
1628	[1-321]
1629	[1-348]
1630	[1-486]
1631	[1-472]
1632	[1-259]
1633	[1-25],[198-453]
1634	[1-485]
1635	[1-283],[413-457]
1636	[1-476]
1637	[1-183]
1638	[1-437]
1639	[1-478]
1640	[1-182],[214-484]
1641	[1-379]
1642	[1-456]
1643	[1-600]
1645	[1-468]
1646	[1-488]
1647	[1-248]
1648	[1-414]
1650	[1-413]
1651	[1-437]
1652	[1-107],[136-473]
1653	[1-517]
1654	[1-108],[325-505]
1655	[1-474]
1656	[1-459]
1657	[1-482]
1658	[1-637]
1662	[368-396]
1663	[1-581]
1664	[1-737]
1666	[1-259]
1667	[1-474]
1669	[1-585]
1671	[1-531]
1673	[190-416]
1674	[1-476]
1675	[1-357]
1676	[1-41],[112-406]
1677	[148-306],[473-602]
1678	[1-418]

Seq Id No.	Positions of preferred fragments
1679	[1-459]
1680	[147-305]
1681	[1-412]
1682	[1-517]
1683	[1-36],[455-486]
1684	[1-328],[405-523]
1685	[1-691]
1686	[1-448]
1687	[1-517]
1688	[1-456]
1689	[330-506]
1690	[1-464]
1692	[1-472]
1693	[1-454]
1694	[1-469]
1695	[1-293]
1696	[1-577]
1697	[1-465]
1698	[1-433]
1700	[1-782]
1701	[1-85]
1702	[1-172]
1703	[1-42],[127-457]
1704	[1-130],[583-621]
1705	[1-544]
1706	[1-489]
1707	[1-505]
1708	[1-457]
1709	[1-509]
1710	[1-494]
1711	[1-37],[192-511]
1712	[1-50]
1713	[1-356]
1714	[1-481]
1715	[1-475]
1716	[73-497]
1717	[1-496]
1718	[1-476]
1719	[1-506]
1720	[1-511]
1721	[1-1062]
1722	[1-497]
1723	[301-498]
1724	[1-444]
1725	[1-527]
1726	[1-494]
1727	[98-202],[299-567]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
1729	[1-482]	1783	[1-714]
1730	[1-470]	1785	[1-477]
1731	[1-83],[115-483]	1786	[1-622]
1732	[1-491]	1787	[1-308]
1733	[114-568]	1789	[1-172],[212-462]
1734	[1-357]	1790	[1-480]
1735	[59-440]	1791	[1-549]
1736	[1-505]	1792	[1-558]
1737	[1-712]	1793	[1-498]
1738	[1-649]	1794	[125-192]
1741	[1-478]	1795	[115-513]
1742	[1-454]	1796	[1-41]
1743	[1-630]	1797	[1-497]
1744	[1-512]	1798	[1-513]
1745	[1-767]	1799	[1-139]
1746	[1-363]	1800	[1-489]
1748	[1-404]	1801	[1-428]
1749	[1-394]	1802	[1-509]
1750	[368-587]	1804	[1-463]
1751	[1-137],[262-380],[491-582]	1805	[1-477]
1752	[1-475]	1807	[1-485]
1753	[334-513]	1808	[1-230],[447-526]
1754	[1-475]	1809	[1-483]
1755	[1-487]	1810	[1-519]
1756	[1-450]	1811	[1-544]
1757	[1-700]	1813	[172-412]
1758	[1-517]	1814	[1-712]
1761	[1-475]	1816	[1-475]
1762	[1-458]	1817	[1-94],[372-534]
1763	[1-420]	1818	[1-93],[171-196]
1764	[1-493]	1820	[1-580]
1765	[1-544]	1821	[1-493]
1766	[1-468]	1822	[1-31],[533-579]
1767	[1-495]	1823	[1-170],[458-494]
1768	[1-492]	1824	[1-482]
1769	[1-216]	1825	[1-292]
1770	[1-460]	1826	[1-551]
1771	[1-664]	1827	[428-547]
1772	[1-293],[324-581]	1828	[1-50],[373-433],[493-642]
1773	[51-133]	1829	[1-352]
1774	[195-451]	1830	[1-462]
1775	[437-498]	1831	[1-476]
1776	[446-513]	1832	[1-465]
1778	[1-460]	1834	[1-454]
1780	[372-424]	1835	[1-615]
1781	[1-525]	1836	[209-271]
1782	[444-512]	1837	[1-214],[374-486]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1838	[1-432]
1839	[1-564]
1840	[1-218],[420-473]
1843	[1-29],[119-173]
1844	[1-466]
1847	[1-462]
1848	[1-462]
1849	[1-459]
1850	[1-526]
1851	[1-480]
1853	[1-500]
1854	[1-181],[404-671]
1855	[1-402]
1856	[1-510]
1857	[1-465]
1858	[1-755]
1859	[1-465]
1860	[463-487]
1861	[1-270]
1862	[1-613]
1863	[175-216],[546-596]
1864	[1-468]
1865	[1-492]
1866	[1-503]
1867	[1-405],[761-807]
1869	[1-476]
1870	[1-440]
1871	[1-448]
1872	[1-505]
1873	[1-51],[218-935]
1874	[1-514]
1876	[1-436]
1877	[1-667]
1878	[1-787]
1879	[1-493]
1880	[1-466]
1882	[1-61],[92-501]
1883	[1-515]
1884	[1-46],[385-491]
1885	[287-392]
1886	[1-646]
1887	[1-515]
1888	[1-455]
1890	[1-465]
1892	[136-443]
1893	[1-66]
1894	[1-613],[663-741]

Seq Id No.	Positions of preferred fragments
1895	[1-542]
1896	[1-482]
1897	[1-467]
1898	[1-480]
1899	[1-484]
1903	[1-481]
1904	[1-501]
1905	[1-540]
1906	[120-144],[452-486]
1907	[1-474]
1908	[1-485]
1909	[1-499]
1910	[1-460]
1911	[1-462]
1912	[1-503]
1914	[1-456]
1915	[1-506]
1916	[1-127],[372-399],[440-469]
1918	[97-453]
1919	[1-328]
1920	[1-663]
1921	[1-181],[233-488]
1923	[1-42],[123-148],[255-285]
1924	[1-79],[271-473]
1926	[1-464]
1927	[1-196]
1928	[47-496]
1929	[1-471]
1930	[1-202]
1932	[1-130],[272-469]
1934	[1-530]
1936	[1-650]
1937	[1-302]
1938	[1-471]
1939	[1-294]
1940	[1-294]
1942	[1-302]
1943	[1-310]
1944	[1-281]
1945	[1-168],[461-654]
1946	[1-521]
1947	[1-1013]
1948	[1-510]
1949	[1-472]
1950	[1-533]
1951	[1-427]
1952	[1-204]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
1953	[1-515]
1954	[1-509]
1955	[1-204]
1956	[1-482]
1957	[44-486]
1958	[1-204]
1959	[1-450]
1960	[1-239]
1962	[59-282],[407-508]
1963	[1-482]
1964	[1-534]
1965	[1-491]
1966	[1-497]
1967	[101-325],[450-549]
1968	[1-145],[561-609]
1969	[1-708]
1970	[1-458]
1971	[1-426]
1972	[543-570]
1974	[1-116]
1977	[1-478]
1978	[1-491]
1980	[1-370]
1982	[1-471]
1983	[1-142]
1984	[1-834]
1985	[32-507]
1986	[1-461]
1988	[1-350]
1989	[1-458]
1990	[1-487]
1991	[1-314],[374-538]
1992	[1-453]
1993	[1-486]
1994	[1-482]
1995	[1-621]
1996	[1-511]
1997	[1-477]
1998	[1-543]
2000	[1-497]
2002	[1-453]
2003	[162-567]
2004	[172-490]
2005	[473-626]
2006	[372-470]
2007	[1-432]
2008	[1-495]
2009	[1-34]
2011	[1-514]
2012	[1-461]
2018	[1-502]
2019	[1-603]
2020	[1-473]
2021	[161-246],[327-515]
2022	[1-436]
2024	[1-201],[458-594]
2025	[1-465]
2026	[144-466]
2027	[1-525]
2029	[1-470]
2031	[1-291]
2032	[1-450]
2033	[1-558]
2034	[1-506]
2035	[1-492]
2036	[1-27],[61-587]
2037	[1-507]
2039	[1-480]
2040	[1-501]
2041	[1-395]
2042	[1-365]
2044	[1-481]
2045	[1-471]
2046	[1-462]
2047	[1-457],[496-594]
2048	[1-526]
2049	[1-421]
2050	[1-483]
2051	[1-102],[337-539]
2052	[1-399]
2053	[414-532],[731-820]
2054	[1-402]
2055	[1-662]
2057	[1-262]
2058	[144-226]
2059	[1-483]
2060	[1-483]
2061	[1-43],[220-466]
2062	[1-422]
2063	[1-490]
2064	[1-341]
2065	[1-448]
2066	[1-222]
2067	[1-461]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2068	[1-49],[299-617]
2069	[1-503]
2070	[1-499]
2071	[1-343]
2072	[1-132],[341-461]
2073	[1-92]
2074	[1-460]
2076	[1-384]
2077	[1-456]
2078	[1-453]
2079	[1-527]
2080	[1-469]
2081	[1-506]
2082	[1-685]
2083	[1-504]
2084	[1-463]
2085	[1-54],[244-340]
2087	[1-496]
2089	[1-40],[70-483]
2090	[1-480]
2091	[1-488]
2092	[1-483]
2093	[1-311]
2094	[1-159],[284-408]
2095	[1-446]
2096	[1-495]
2098	[1-460]
2099	[1-223],[437-477]
2100	[1-160],[285-408]
2101	[1-459]
2102	[1-374]
2103	[1-384]
2104	[1-554]
2105	[32-476]
2106	[1-71]
2107	[1-461]
2108	[1-544]
2109	[1-515]
2110	[1-352]
2112	[1-443]
2113	[1-342]
2115	[1-470]
2117	[1-478]
2118	[1-485]
2120	[1-375]
2122	[1-288]
2123	[1-533]

Seq Id No.	Positions of preferred fragments
2124	[1-448]
2125	[1-437]
2126	[1-455]
2127	[1-428]
2128	[1-359]
2129	[1-546]
2130	[1-45],[96-354]
2131	[1-513]
2132	[1-388]
2133	[1-432]
2134	[1-277]
2135	[1-503]
2137	[1-508]
2138	[1-158],[417-476]
2139	[1-479]
2140	[1-428]
2141	[1-463]
2142	[1-497]
2143	[236-459]
2144	[1-533]
2147	[1-408]
2148	[1-564]
2149	[1-295]
2150	[1-336]
2151	[1-449]
2152	[1-572]
2153	[1-223]
2154	[1-523]
2155	[1-499]
2156	[1-600]
2157	[451-510]
2158	[1-486]
2159	[1-488]
2160	[1-503]
2161	[1-470]
2163	[1-458]
2164	[1-495]
2165	[1-107]
2166	[1-390],[419-520]
2167	[274-512]
2168	[1-398]
2169	[1-493]
2170	[1-532]
2171	[1-419]
2172	[1-506]
2173	[1-491]
2174	[1-564]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2175	[1-474]
2176	[1-469]
2177	[1-56],[338-452]
2178	[1-456]
2179	[164-482]
2181	[1-467]
2182	[1-474]
2183	[1-469]
2184	[1-379]
2185	[1-413]
2186	[1-483]
2187	[173-451]
2188	[1-476]
2189	[1-43]
2190	[1-379],[419-453]
2192	[1-482]
2193	[34-462]
2194	[1-487]
2195	[1-568]
2196	[1-306]
2197	[1-462]
2198	[1-439]
2199	[1-489]
2200	[195-289]
2201	[1-485]
2203	[1-474]
2204	[1-361]
2205	[1-513]
2206	[1-481]
2209	[1-892]
2210	[1-54],[180-247]
2211	[1-455]
2212	[1-226],[442-474]
2213	[1-499]
2214	[1-457]
2215	[1-479]
2216	[1-481]
2217	[1-239]
2218	[1-131]
2219	[1-471]
2220	[1-473]
2221	[1-55]
2223	[302-459]
2224	[1-29],[185-383]
2225	[1-422]
2226	[1-93]
2227	[437-464]

Seq Id No.	Positions of preferred fragments
2228	[1-489]
2229	[1-55]
2230	[1-440]
2233	[1-475]
2234	[1-459]
2235	[1-481]
2236	[1-452]
2237	[1-415]
2238	[1-456]
2239	[1-508]
2240	[44-471]
2241	[1-213],[409-467]
2242	[1-220],[405-473]
2243	[1-333]
2244	[1-511]
2245	[1-472]
2246	[1-463]
2247	[1-342]
2248	[1-467]
2249	[1-419]
2250	[1-474]
2251	[1-42]
2252	[1-529]
2253	[1-381]
2254	[1-468]
2255	[1-535]
2256	[1-41],[470-553]
2257	[1-469]
2258	[1-41],[470-508]
2260	[1-472]
2261	[1-460]
2262	[1-599]
2263	[337-489]
2264	[1-460]
2266	[1-386]
2267	[1-472]
2268	[1-484]
2269	[1-502]
2270	[1-503]
2271	[1-563]
2272	[1-486]
2273	[1-459]
2274	[1-330]
2276	[1-467]
2277	[1-141],[188-451]
2278	[1-462]
2279	[1-372]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2280	[1-457]
2281	[1-484]
2282	[1-172],[414-537]
2283	[1-199]
2284	[1-559]
2285	[1-464]
2286	[1-460]
2287	[1-511]
2289	[34-75],[226-478]
2290	[1-505]
2292	[1-478]
2294	[1-461]
2295	[1-267]
2296	[1-346]
2297	[1-476]
2298	[1-43]
2300	[1-433]
2301	[1-369]
2303	[1-507]
2305	[1-374]
2306	[1-457]
2308	[1-499]
2309	[1-507]
2310	[1-472]
2311	[1-478]
2312	[1-468]
2313	[45-329]
2315	[1-46],[207-372]
2316	[1-366]
2317	[1-476]
2318	[1-238]
2319	[1-499]
2320	[1-473]
2323	[1-489]
2324	[1-182]
2325	[1-460]
2327	[1-493]
2328	[1-496]
2329	[1-493]
2330	[1-413]
2331	[1-492]
2332	[1-452]
2333	[1-456]
2334	[1-443]
2335	[1-413]
2336	[1-479]
2337	[1-311]

Seq Id No.	Positions of preferred fragments
2338	[1-450]
2339	[45-378]
2340	[1-445]
2341	[1-339]
2342	[1-295]
2344	[1-516]
2345	[432-498]
2346	[1-466]
2347	[1-480]
2348	[1-32]
2349	[1-317]
2350	[1-278],[418-503]
2351	[1-616]
2354	[1-494]
2355	[1-479]
2357	[1-456]
2358	[1-473]
2359	[1-473]
2360	[1-540]
2361	[1-470]
2362	[1-485]
2363	[1-495]
2364	[1-358]
2365	[377-482]
2366	[1-143]
2367	[1-32],[152-403]
2371	[1-388]
2372	[1-556]
2373	[1-175],[252-523]
2374	[1-446]
2375	[1-175],[252-585]
2376	[1-520]
2377	[1-487]
2378	[427-459]
2379	[1-65],[471-535]
2380	[1-65],[441-485]
2383	[1-489]
2384	[1-660]
2385	[1-491]
2386	[1-459]
2387	[1-517]
2388	[1-516]
2389	[1-499]
2390	[220-277],[318-386],[423-523]
2391	[1-45],[294-458]
2392	[1-856]
2394	[1-468]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2396	[1-58],[103-497]
2397	[1-584]
2398	[1-270],[311-479]
2399	[1-559]
2400	[1-459]
2402	[1-306]
2403	[1-468]
2404	[1-341]
2405	[1-467]
2407	[188-332]
2408	[1-144]
2409	[1-516]
2410	[1-468]
2412	[1-506]
2414	[469-548]
2415	[1-268]
2416	[1-490]
2417	[1-930]
2418	[1-489]
2420	[156-531]
2421	[1-476]
2422	[254-312]
2423	[1-501]
2425	[1-488]
2426	[1-506]
2427	[1-348]
2428	[1-327]
2429	[1-326]
2430	[269-510]
2431	[1-542]
2432	[204-255]
2433	[1-223],[423-537]
2434	[1-458]
2435	[1-557]
2436	[67-166]
2437	[1-363]
2438	[1-433]
2439	[1-480]
2441	[1-319],[352-398]
2442	[1-444]
2444	[1-451]
2445	[1-504]
2446	[1-430]
2447	[1-86],[288-485]
2448	[1-546]
2449	[349-517]
2450	[1-463]

Seq Id No.	Positions of preferred fragments
2451	[1-349]
2452	[1-467]
2453	[1-571]
2454	[1-551]
2455	[1-461]
2456	[1-481]
2457	[1-468]
2458	[1-492]
2459	[1-492]
2460	[1-511]
2461	[1-675]
2463	[1-482]
2464	[1-499]
2467	[1-511]
2469	[1-452]
2470	[1-556]
2471	[1-188]
2472	[1-295]
2473	[1-465]
2474	[1-451]
2475	[1-527]
2476	[91-189]
2477	[1-364]
2478	[1-467]
2479	[1-360]
2480	[1-502]
2481	[1-537]
2482	[1-479]
2483	[91-189]
2484	[1-514]
2485	[1-391]
2486	[1-210]
2487	[1-198],[317-554]
2488	[1-465]
2489	[1-410]
2490	[1-493]
2491	[1-461]
2492	[93-533]
2493	[168-714]
2494	[1-561]
2495	[1-451]
2497	[1-612]
2498	[1-491]
2499	[1-780]
2500	[1-242],[276-300]
2501	[1-466]
2502	[1-405]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2503	[1-476]
2505	[1-180],[509-543]
2506	[1-507]
2507	[124-311]
2508	[1-488]
2509	[1-482]
2510	[1-489]
2511	[1-508]
2512	[1-305],[416-471]
2513	[331-478]
2514	[1-498]
2515	[276-321]
2516	[1-553]
2517	[1-468]
2518	[1-112],[321-484]
2519	[1-459]
2522	[1-49]
2523	[1-538]
2524	[1-600]
2525	[1-390]
2526	[1-469]
2527	[1-521]
2528	[1-513]
2532	[392-481]
2533	[1-429],[461-487]
2534	[1-465]
2535	[1-463]
2536	[1-484]
2537	[1-125],[292-533]
2538	[1-516]
2539	[317-362]
2540	[1-985]
2541	[1-324],[418-508]
2542	[1-484]
2543	[1-544]
2544	[1-25]
2545	[1-233]
2547	[1-50],[384-578]
2549	[1-144]
2550	[1-478]
2551	[1-424]
2552	[44-78],[126-170]
2554	[1-165]
2555	[1-28]
2556	[1-502]
2557	[1-528]
2558	[1-513]

Seq Id No.	Positions of preferred fragments
2559	[1-346]
2560	[1-505]
2561	[1-473]
2562	[1-406]
2564	[1-513]
2567	[1-361]
2568	[1-70]
2570	[1-624]
2571	[1-483]
2572	[1-64]
2574	[1-192],[361-589],[692-834]
2575	[1-530]
2576	[1-456]
2577	[1-43],[98-215]
2578	[1-43],[98-215]
2579	[1-556]
2580	[1-622]
2581	[180-231]
2582	[160-211]
2583	[180-231]
2584	[479-647]
2585	[290-476]
2586	[1-482]
2587	[1-560]
2588	[1-541]
2589	[1-492]
2591	[1-541]
2592	[1-575]
2593	[179-490]
2594	[1-522]
2595	[1-627]
2596	[1-125],[207-506]
2597	[1-588]
2598	[1-504]
2599	[1-97],[169-465]
2600	[1-627]
2601	[1-542]
2602	[1-451]
2603	[1-453]
2605	[1-538]
2606	[1-270]
2607	[1-235]
2608	[1-127]
2609	[1-197]
2610	[1-489]
2611	[1-468]
2612	[1-173],[341-720]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2613	[1-251],[315-556]
2614	[1-189],[424-803]
2615	[1-491]
2616	[1-478]
2617	[1-273]
2619	[1-56]
2620	[1-488]
2621	[1-547]
2622	[1-131],[401-429]
2623	[1-437]
2624	[1-452]
2625	[1-445]
2626	[1-442]
2627	[1-446]
2628	[1-448]
2629	[1-441]
2630	[1-475]
2631	[1-443]
2632	[1-469]
2633	[1-452]
2634	[1-439]
2635	[1-488]
2636	[1-447]
2638	[265-388]
2639	[1-444]
2641	[251-394]
2642	[1-444]
2643	[1-439]
2644	[1-493]
2645	[1-444]
2646	[1-448]
2647	[1-522]
2648	[1-481]
2649	[1-600]
2650	[1-492]
2651	[1-357]
2652	[1-59]
2653	[1-34]
2655	[1-512]
2657	[1-461]
2658	[153-206],[334-414]
2659	[1-336]
2662	[1-402]
2663	[1-489]
2664	[1-490]
2665	[1-470]
2666	[1-396]
2668	[1-42]
2669	[1-485]
2670	[1-455]
2674	[1-330]
2675	[1-748]
2676	[1-502]
2677	[1-497]
2678	[1-468]
2680	[1-305]
2681	[1-305]
2682	[1-217]
2683	[1-69]
2684	[1-470]
2685	[1-51]
2687	[1-451]
2688	[1-488]
2689	[166-505]
2690	[1-491]
2691	[1-507]
2692	[1-526]
2693	[1-523]
2694	[1-50],[412-572]
2695	[1-544]
2696	[1-494]
2697	[59-100]
2698	[328-406]
2700	[1-84],[395-452]
2701	[1-466]
2703	[1-470]
2704	[1-464]
2705	[1-590]
2707	[64-96],[298-483]
2708	[1-517]
2709	[1-474]
2710	[1-473]
2711	[174-513]
2712	[1-513]
2713	[1-501]
2714	[1-506]
2715	[1-471]
2716	[1-525]
2717	[1-515]
2718	[1-521]
2719	[1-399]
2720	[1-37],[251-481]
2721	[1-497]
2723	[1-156]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2724	[1-156]
2725	[1-890]
2726	[1-517]
2727	[1-583]
2728	[1-79],[534-569]
2729	[1-105]
2730	[1-27]
2732	[1-477]
2733	[1-606]
2734	[303-554]
2736	[1-485]
2737	[1-552]
2738	[1-451]
2739	[1-492]
2740	[1-281],[391-549]
2741	[1-493]
2742	[1-35]
2744	[1-484]
2745	[1-534]
2746	[1-491]
2747	[145-330]
2748	[1-472]
2749	[1-407]
2750	[1-41],[351-607]
2751	[1-548]
2752	[1-496]
2753	[1-352]
2754	[1-447]
2757	[1-551]
2758	[1-30]
2759	[135-563]
2760	[1-670]
2761	[159-183]
2762	[1-48]
2763	[1-48]
2764	[1-481]
2765	[1-27],[368-509]
2766	[1-436]
2767	[1-86],[232-424]
2768	[1-423]
2769	[1-416]
2770	[1-333]
2771	[1-320]
2772	[1-101],[158-203]
2773	[1-517]
2774	[1-572]
2775	[1-647]
2776	[1-504]
2778	[1-490]
2779	[1-471]
2780	[1-502]
2781	[1-630]
2784	[457-555]
2785	[1-527]
2786	[1-430]
2787	[36-527]
2788	[1-504]
2789	[1-485]
2790	[1-487]
2791	[1-483]
2792	[1-903]
2793	[1-472]
2794	[1-501]
2795	[1-455]
2796	[1-460]
2797	[1-459]
2798	[1-457]
2799	[1-462]
2800	[1-455]
2801	[1-457]
2802	[1-457]
2803	[1-456]
2804	[1-458]
2805	[1-472]
2806	[1-388]
2807	[1-474]
2808	[1-464]
2809	[1-262]
2810	[1-510]
2811	[165-499]
2812	[378-515]
2813	[1-832]
2814	[1-41],[98-552]
2815	[1-33]
2817	[1-494]
2818	[1-253]
2819	[1-428],[461-529]
2820	[1-1035]
2821	[1-492]
2822	[1-509]
2823	[1-515]
2824	[1-524]
2825	[227-524]
2827	[1-476]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2828	[1-516]
2829	[1-69],[102-152]
2830	[1-535]
2831	[1-421]
2832	[1-625]
2833	[1-306],[347-461]
2834	[1-63],[401-444]
2835	[254-400]
2838	[1-517]
2839	[1-469]
2840	[1-414]
2841	[1-284]
2842	[1-453]
2843	[50-473]
2849	[1-521]
2850	[1-453]
2851	[1-470]
2852	[1-512]
2853	[1-81],[140-483]
2854	[1-79],[370-522]
2855	[1-527]
2856	[134-528]
2857	[1-444]
2858	[1-496]
2859	[1-488]
2860	[1-510]
2861	[1-486]
2862	[1-490]
2863	[42-113]
2864	[1-29]
2866	[1-494]
2867	[1-539]
2868	[1-713]
2869	[1-476]
2870	[267-531]
2871	[267-468]
2872	[278-496]
2873	[1-524]
2874	[1-486]
2875	[1-494]
2876	[1-486]
2877	[1-706]
2878	[1-531]
2879	[1-385]
2880	[1-482]
2881	[1-575]
2882	[1-543]

Seq Id No.	Positions of preferred fragments
2883	[1-456]
2884	[1-560]
2885	[1-478]
2886	[1-31]
2887	[1-503]
2889	[1-467]
2890	[289-331]
2891	[444-489]
2892	[65-132]
2893	[1-459]
2894	[1-547]
2895	[272-459]
2896	[349-395]
2897	[1-463]
2898	[1-527]
2899	[1-511]
2900	[1-64],[451-486]
2901	[1-284]
2902	[1-479],[641-721]
2903	[1-269]
2904	[1-506]
2905	[1-474]
2906	[1-387]
2907	[468-523]
2908	[1-539]
2910	[1-471]
2911	[1-531]
2912	[1-475]
2913	[1-483]
2914	[320-395]
2915	[1-495]
2916	[1-453]
2918	[1-236]
2919	[1-411],[476-519]
2920	[1-454]
2921	[1-243],[465-492]
2922	[1-455]
2923	[1-504]
2924	[1-615]
2925	[82-117],[169-237],[283-348]
2926	[1-483]
2927	[1-577]
2928	[1-489]
2929	[1-474]
2930	[1-466]
2932	[1-581]
2933	[1-43]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
2934	[1-146]
2936	[1-206]
2937	[1-515]
2941	[1-61],[309-342]
2942	[1-179],[215-518]
2943	[1-509]
2944	[1-465]
2945	[1-164]
2946	[1-87],[303-402]
2948	[406-498]
2950	[1-540]
2951	[1-506]
2952	[1-525]
2953	[1-272]
2955	[1-395]
2956	[1-251]
2957	[1-257]
2958	[1-462]
2959	[1-590]
2960	[1-271]
2961	[1-371]
2962	[1-499]
2963	[1-539]
2964	[1-499]
2966	[1-452]
2968	[1-97],[531-575]
2969	[1-520]
2970	[1-125]
2971	[1-491]
2972	[1-477]
2975	[1-611]
2976	[1-470]
2977	[1-398]
2978	[1-517]
2979	[76-491]
2980	[1-484]
2982	[415-555]
2983	[1-507]
2984	[1-97]
2985	[33-783]
2986	[128-171]
2987	[1-342]
2988	[1-272]
2989	[1-478]
2990	[1-482]
2991	[1-417]
2992	[1-431]
2993	[1-476]
2994	[1-499]
2995	[1-509]
2996	[49-466]
2997	[1-35],[94-284]
2998	[1-546]
2999	[1-345]
3000	[1-482]
3001	[1-26]
3002	[1-483]
3003	[1-518]
3004	[1-393]
3006	[1-42]
3007	[1-548]
3008	[1-513]
3009	[1-491]
3010	[416-507]
3011	[1-674]
3012	[1-505]
3013	[1-557]
3014	[1-467]
3015	[1-338]
3016	[1-513]
3017	[1-469]
3018	[1-531]
3019	[1-390],[461-610]
3021	[1-530]
3022	[1-128],[194-220],[261-436]
3023	[1-494]
3024	[1-488]
3026	[1-355]
3027	[1-807]
3028	[1-254]
3029	[1-533]
3030	[1-505]
3031	[1-520]
3032	[1-585]
3033	[76-420]
3034	[1-407]
3035	[1-156]
3036	[1-136],[340-375]
3037	[1-462]
3038	[269-356],[433-510]
3039	[1-94],[361-483]
3040	[1-93]
3041	[1-524]
3042	[1-186]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
3043	[1-486]	3106	[1-557]
3044	[1-491]	3110	[1-428]
3045	[1-328]	3111	[1-491]
3046	[1-477]	3112	[1-480]
3047	[1-240],[661-691]	3113	[1-236]
3048	[1-465]	3114	[1-525]
3050	[1-515]	3115	[1-30],[113-150]
3051	[1-642]	3116	[1-445]
3052	[712-751]	3117	[1-498]
3055	[136-561]	3118	[1-509]
3057	[1-468]	3119	[1-284]
3058	[1-558]	3120	[1-494]
3059	[1-481]	3121	[604-632]
3060	[1-494]	3123	[1-483]
3061	[1-523]	3124	[1-479]
3062	[1-537]	3125	[1-492]
3063	[1-470]	3126	[1-707]
3064	[1-112]	3129	[1-464]
3065	[1-494]	3130	[1-497]
3066	[1-456]	3131	[1-316]
3067	[1-561]	3132	[1-464]
3068	[184-233]	3133	[1-58],[463-487]
3069	[1-513]	3134	[1-52],[521-556]
3070	[1-484]	3136	[1-52]
3071	[1-473]	3137	[1-341]
3073	[466-506]	3138	[1-489]
3074	[1-484]	3139	[1-370]
3075	[125-459]	3140	[1-457]
3076	[1-500]	3141	[1-549]
3078	[1-419]	3142	[1-438]
3079	[1-456]	3143	[1-513]
3080	[1-500]	3144	[1-167],[505-548]
3081	[1-566]	3145	[141-183],[286-410]
3082	[1-529]	3146	[1-476]
3083	[1-463]	3147	[1-500]
3084	[1-32],[71-528]	3148	[1-462]
3086	[127-513]	3149	[1-46]
3093	[224-490]	3150	[1-864]
3094	[1-505]	3151	[1-655]
3095	[1-552]	3152	[1-484]
3096	[136-185],[417-508]	3153	[1-459]
3100	[306-340]	3154	[1-526]
3101	[152-187],[332-404]	3155	[1-505]
3102	[1-450]	3157	[172-238],[368-409]
3103	[1-490]	3158	[1-156],[251-482]
3104	[1-501]	3159	[172-238],[368-471]
3105	[1-482]	3160	[1-109],[175-236]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3161	[172-238],[368-451]
3162	[1-494]
3163	[1-478]
3164	[1-94],[275-508]
3165	[1-498]
3167	[1-350]
3168	[68-471]
3169	[1-490]
3170	[1-563]
3171	[1-31]
3173	[1-92],[220-455]
3174	[1-465]
3175	[1-484]
3177	[1-482]
3179	[1-485]
3180	[1-240],[271-401]
3181	[401-442],[488-517]
3182	[1-144],[436-577]
3183	[1-84],[149-207],[320-381]
3184	[1-394]
3185	[1-556]
3186	[1-539]
3188	[325-444]
3190	[1-530]
3191	[1-452]
3192	[1-527]
3193	[1-757]
3194	[240-503]
3195	[1-486]
3197	[1-494]
3198	[1-336]
3199	[1-328]
3200	[1-60],[155-484]
3201	[1-463]
3202	[1-473]
3203	[1-85]
3204	[1-50],[90-443]
3205	[1-533]
3206	[1-191],[306-464]
3207	[1-166],[281-521]
3209	[1-505]
3210	[58-380]
3211	[1-28]
3212	[1-157],[190-461]
3213	[1-444]
3214	[1-457]
3215	[1-474]

Seq Id No.	Positions of preferred fragments
3216	[1-458]
3217	[1-526]
3218	[1-517]
3219	[1-509]
3220	[1-461]
3221	[1-381]
3222	[1-347]
3223	[1-130],[482-517]
3224	[1-473]
3225	[1-497]
3226	[1-601]
3227	[1-516]
3228	[1-513]
3229	[1-525]
3230	[500-548]
3232	[1-210],[251-523]
3233	[1-399]
3234	[284-532]
3237	[350-499]
3238	[342-587]
3239	[1-748]
3240	[1-468]
3241	[1-690]
3243	[1-104],[148-466]
3244	[1-504]
3245	[1-597]
3246	[1-460]
3247	[1-565]
3248	[1-50],[372-432]
3249	[1-314]
3250	[268-409]
3251	[273-456]
3252	[269-344]
3253	[268-474]
3257	[1-151]
3258	[1-533]
3259	[1-112]
3260	[1-429]
3261	[1-462]
3262	[1-134],[180-235],[298-330]
3263	[1-69],[139-321]
3264	[401-469]
3265	[1-239],[411-460]
3266	[1-511]
3267	[287-425]
3268	[1-453]
3269	[1-503]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3270	[1-415]
3272	[1-353]
3273	[1-401]
3274	[1-447]
3275	[1-461]
3276	[1-628]
3277	[1-29]
3278	[1-476]
3279	[1-527]
3281	[1-513]
3282	[1-486]
3283	[1-555]
3284	[1-471]
3286	[1-526]
3288	[1-482]
3289	[40-83]
3290	[1-115],[355-489]
3291	[1-270]
3292	[1-115],[355-435]
3293	[1-460]
3294	[1-450]
3296	[1-461]
3298	[1-32],[293-360]
3299	[1-459]
3300	[1-450]
3301	[1-542]
3302	[1-418]
3303	[1-462]
3306	[1-478]
3307	[1-94],[134-471]
3308	[1-524]
3309	[1-43]
3310	[1-358]
3311	[207-444]
3312	[1-932]
3313	[1-549]
3315	[1-497]
3316	[1-511]
3317	[189-414]
3319	[1-217],[334-476]
3321	[1-212],[329-471]
3322	[1-125]
3323	[1-25]
3324	[1-294]
3325	[1-485]
3326	[1-451]
3327	[1-515]
3328	[1-527]
3331	[1-528]
3332	[1-465]
3333	[1-389]
3334	[1-65]
3336	[1-452]
3337	[1-846]
3338	[1-386]
3339	[1-474]
3340	[1-431]
3341	[1-207]
3342	[1-464]
3343	[1-165],[199-232],[262-404],[480-548]
3344	[1-45]
3345	[1-184],[226-550]
3346	[93-123]
3347	[93-123]
3349	[1-527]
3351	[1-506]
3353	[1-461]
3354	[1-263]
3355	[1-263]
3356	[1-408]
3357	[1-532]
3358	[1-145],[387-475]
3359	[1-413]
3360	[1-249],[302-593]
3361	[1-509]
3362	[1-82],[296-699]
3363	[1-82],[296-579]
3364	[1-82],[296-612]
3365	[224-385]
3366	[1-51],[265-516]
3367	[231-447]
3370	[1-393]
3371	[1-508]
3372	[1-384]
3373	[1-366]
3375	[1-482]
3376	[1-560]
3377	[1-364]
3378	[1-173]
3380	[1-490]
3381	[1-487]
3382	[1-738]
3383	[43-486]
3384	[520-560]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3385	[1-421]
3386	[1-456]
3387	[1-480]
3388	[1-579]
3389	[1-162],[201-337],[534-566]
3390	[1-452]
3391	[436-526]
3392	[1-478]
3393	[1-341]
3394	[1-465]
3395	[1-469]
3396	[227-316]
3397	[1-477]
3398	[1-451]
3399	[1-468]
3400	[1-431]
3401	[1-461]
3402	[1-109]
3403	[1-471]
3404	[1-482]
3406	[1-726]
3407	[209-459]
3408	[1-268]
3409	[1-31]
3410	[1-451]
3412	[1-484]
3413	[1-390]
3414	[1-473]
3415	[1-278],[317-585]
3416	[1-100],[133-519]
3417	[1-547]
3418	[482-509]
3419	[1-519]
3420	[1-436]
3421	[1-472]
3422	[1-594]
3423	[1-429]
3424	[1-386]
3425	[1-442]
3426	[1-431]
3427	[1-484]
3429	[243-363]
3430	[1-52],[341-592],[669-804]
3432	[1-25]
3433	[1-473]
3434	[1-107],[149-489]
3435	[1-588]

Seq Id No.	Positions of preferred fragments
3436	[1-475]
3437	[1-462]
3438	[1-556]
3439	[1-449]
3441	[1-453]
3442	[1-450]
3443	[285-515]
3444	[1-439]
3445	[1-168]
3446	[1-298]
3447	[1-495]
3448	[1-518]
3449	[1-508]
3450	[1-503]
3451	[1-452]
3452	[1-413]
3453	[1-325]
3455	[1-90]
3456	[1-450]
3457	[1-571]
3458	[1-478]
3459	[1-565]
3460	[1-375],[434-543]
3463	[1-577]
3464	[1-481]
3466	[1-70],[168-586],[729-778]
3469	[322-495]
3470	[1-484]
3471	[1-512]
3472	[1-492]
3473	[1-278]
3474	[1-132],[250-512]
3475	[1-497]
3476	[1-270],[314-511]
3477	[1-528]
3478	[1-498]
3479	[1-399]
3480	[1-531]
3481	[1-539]
3482	[1-661]
3483	[1-556]
3484	[1-518]
3485	[1-546]
3486	[1-478]
3487	[1-561]
3488	[1-478]
3489	[1-527]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3490	[99-192],[414-482]
3491	[112-205],[517-561]
3492	[111-204]
3493	[1-477]
3494	[1-494]
3495	[183-533]
3496	[1-186],[229-419]
3498	[188-684]
3499	[1-465]
3501	[1-511]
3502	[1-490]
3503	[1-513]
3504	[1-394]
3506	[268-394],[425-478]
3507	[1-497]
3508	[1-470]
3509	[1-27],[493-557]
3510	[1-25],[186-402],[460-495]
3511	[408-477]
3512	[1-492]
3513	[1-461]
3514	[421-469]
3515	[299-325]
3516	[1-255]
3517	[1-297]
3518	[1-754]
3519	[1-657]
3520	[1-490]
3521	[1-141]
3522	[1-530]
3523	[1-503]
3524	[1-198]
3525	[1-572]
3526	[1-343],[372-457]
3527	[1-614]
3528	[1-35],[473-502]
3530	[1-454]
3531	[1-385]
3532	[1-511]
3535	[1-482]
3536	[1-428]
3537	[1-424]
3538	[1-96],[194-495]
3539	[1-498]
3540	[1-500]
3542	[1-526]
3543	[1-520]
3544	[1-406]
3545	[1-281]
3546	[1-466]
3547	[1-470]
3548	[1-496]
3549	[1-475]
3550	[1-401]
3551	[1-494]
3552	[1-43],[345-490]
3553	[490-523]
3554	[1-234]
3555	[312-664]
3556	[312-581]
3557	[1-244]
3558	[1-462]
3559	[1-548]
3560	[1-461]
3561	[1-540]
3562	[1-453]
3563	[1-465]
3564	[1-553]
3565	[1-93],[350-491]
3566	[1-93],[350-494]
3567	[1-459]
3568	[1-379],[491-538]
3569	[1-441],[553-595]
3570	[126-265]
3571	[1-404]
3572	[1-401],[513-555]
3573	[1-315],[345-504]
3575	[1-494]
3576	[1-282]
3577	[1-313]
3579	[1-308]
3580	[1-407]
3582	[1-69]
3583	[36-516]
3584	[1-44]
3585	[1-396]
3586	[333-472]
3588	[1-558]
3589	[1-637]
3590	[1-79],[154-477]
3591	[1-77],[121-162],[248-459]
3592	[265-376]
3593	[56-492]
3594	[1-512]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3595	[1-82],[117-571]
3596	[1-482]
3598	[92-292]
3599	[1-372]
3600	[1-157],[210-236]
3601	[1-150],[203-394]
3602	[1-480]
3603	[1-460]
3606	[443-469]
3607	[1-50],[114-488]
3608	[1-501]
3609	[1-638]
3611	[1-453]
3613	[1-84]
3614	[271-493]
3615	[1-194],[312-491]
3616	[1-311],[410-549]
3617	[1-489]
3618	[1-254],[445-753]
3619	[1-393]
3620	[1-179],[370-482]
3621	[1-42]
3622	[1-479]
3623	[1-505]
3624	[1-479]
3625	[1-422]
3626	[1-407]
3627	[1-32],[289-553]
3628	[1-522]
3629	[1-466],[727-821]
3631	[476-500]
3633	[1-464]
3634	[1-408]
3635	[1-483]
3637	[1-488]
3638	[1-474]
3639	[1-486]
3643	[135-295]
3644	[1-485]
3645	[1-168],[449-474]
3646	[59-234],[416-473]
3647	[1-527]
3648	[1-490]
3649	[1-32],[140-536]
3650	[1-484]
3651	[1-494]
3652	[1-31]
3653	[1-501]
3654	[1-595]
3655	[1-490]
3658	[1-456]
3662	[1-362]
3663	[1-1043]
3665	[324-385]
3666	[1-47]
3668	[432-467]
3669	[324-385]
3670	[1-71],[322-363]
3671	[84-110],[359-400]
3673	[84-110],[359-400]
3674	[276-331]
3675	[84-110],[359-400]
3676	[40-586]
3677	[433-465]
3678	[1-471]
3679	[1-524]
3680	[1-941]
3684	[1-303],[482-508]
3686	[1-392]
3687	[1-532]
3688	[1-471]
3689	[1-525]
3690	[1-513]
3691	[1-564]
3693	[1-206],[289-473]
3694	[1-96],[205-461]
3695	[1-422]
3696	[1-38],[153-365]
3697	[1-469]
3698	[1-485]
3699	[1-245]
3700	[1-349]
3701	[1-572]
3702	[1-543]
3703	[1-503]
3704	[1-485]
3705	[42-100]
3706	[1-499]
3707	[1-400]
3708	[1-633]
3709	[1-504]
3710	[1-560]
3711	[1-261],[291-378]
3712	[1-479]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3713	[1-499]
3714	[1-480]
3715	[1-507]
3716	[1-771]
3717	[1-599]
3718	[1-475]
3719	[162-511]
3720	[162-816]
3722	[1-496]
3723	[1-477]
3724	[1-469]
3725	[208-373]
3726	[1-523]
3727	[173-216],[270-462],[504-579]
3728	[1-455]
3729	[1-450]
3730	[1-394]
3731	[1-494]
3732	[1-524]
3733	[1-479]
3735	[1-377]
3736	[1-496]
3738	[1-73]
3739	[1-26],[129-327]
3741	[1-387]
3742	[1-36],[160-222],[264-316],[459-523]
3743	[1-613]
3746	[37-418]
3747	[1-27],[192-487]
3748	[1-534]
3749	[167-194],[337-378]
3752	[1-468]
3753	[1-238],[272-557]
3754	[383-429]
3756	[1-462]
3757	[1-473]
3758	[171-483]
3759	[1-518]
3763	[1-82]
3764	[1-96]
3765	[1-504]
3766	[1-620]
3767	[414-478]
3768	[1-480]
3769	[102-461]
3770	[128-460]
3771	[1-618]
3773	[1-505]
3775	[1-473]
3776	[1-421],[537-1100]
3777	[1-516]
3778	[1-687]
3779	[1-79]
3780	[1-79],[524-555]
3781	[1-534]
3782	[1-467]
3784	[1-484]
3785	[1-153],[407-442]
3786	[1-420]
3787	[1-505]
3788	[384-453]
3789	[1-488]
3791	[1-398]
3792	[1-28]
3794	[160-240],[292-321],[358-573]
3796	[30-85]
3800	[1-79]
3801	[1-462]
3802	[1-468]
3803	[1-985]
3804	[1-509]
3805	[1-400]
3806	[1-450]
3809	[1-590]
3810	[43-503]
3811	[1-528]
3812	[1-519]
3813	[1-518]
3814	[1-515]
3815	[1-480]
3816	[1-458]
3821	[384-449]
3822	[1-569]
3823	[1-453]
3824	[1-491]
3825	[1-487]
3826	[1-603]
3827	[1-465]
3828	[1-544]
3829	[1-48],[90-294],[503-589]
3830	[1-561]
3831	[1-542]
3832	[41-456]
3833	[1-463]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
3834	[1-592]
3835	[1-452]
3836	[1-50],[248-298]
3837	[1-550]
3839	[321-536]
3840	[321-508]
3841	[1-421]
3844	[1-252]
3845	[1-352]
3847	[397-453]
3848	[1-106],[140-674]
3849	[1-515]
3850	[1-514]
3851	[1-514]
3852	[1-104],[138-515]
3853	[1-516]
3854	[1-519]
3855	[1-104],[138-516]
3856	[1-105],[139-428]
3857	[1-105],[139-428]
3858	[1-105],[139-516]
3859	[1-515]
3860	[1-468]
3861	[1-31]
3863	[1-201]
3864	[1-513]
3865	[264-495]
3866	[1-470]
3868	[1-500]
3869	[1-489]
3870	[1-503]
3871	[252-298]
3872	[1-480]
3873	[1-523]
3874	[1-173],[338-613]
3875	[1-501]
3876	[1-497]
3877	[244-453]
3879	[465-489]
3880	[1-189],[457-707]
3881	[1-459]
3883	[1-231]
7744	[1-108]
7745	[1-89]
7746	[1-108]
7747	[1-108]
7748	[1-154]
7749	[1-108]
7750	[1-96]
7751	[1-153]
7752	[1-108]
7753	[1-101]
7754	[1-108]
7755	[1-113]
7756	[1-108]
7757	[1-108]
7758	[1-108]
7759	[1-406]
7760	[1-108]
7761	[1-88]
7762	[1-169]
7763	[1-108]
7764	[1-108]
7765	[1-108]
7766	[1-169]
7767	[1-108]
7768	[1-134]
7769	[1-108]
7770	[1-108]
7771	[1-108]
7772	[1-266]
7773	[1-108]
7774	[1-63]
7775	[1-299]
7776	[1-108]
7778	[1-101]
7779	[1-63]
7781	[1-108]
7782	[1-154]
7783	[1-169]
7784	[1-108]
7785	[1-108]
7786	[1-366]
7787	[1-101]
7788	[1-444]
7789	[1-108]
7790	[1-108]
7791	[1-108]
7792	[1-339]
7795	[1-169]
7796	[1-108]
7798	[1-108]
7799	[1-89]
7800	[1-63]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
7801	[1-150]
7802	[1-500]
7803	[1-108]
7804	[1-108]
7805	[1-108]
7806	[1-297]
7807	[1-357]
7809	[1-25],[282-385]
7810	[1-53]
7811	[1-381]
7812	[1-177]
7813	[1-162]
7814	[1-35]
7818	[1-158]
7819	[1-205]
7821	[1-361]
7822	[1-317]
7823	[1-343]
7824	[1-343]
7825	[1-208]
7826	[76-293]
7827	[1-242]
7828	[1-384],[424-533]
7830	[1-310]
7831	[1-548]
7832	[1-328]
7833	[1-505]
7834	[1-117]
7836	[1-307]
7837	[1-547]
7838	[1-263]
7839	[1-465]
7840	[1-370]
7841	[1-307]
7842	[1-515]
7843	[1-365]
7844	[1-308]
7845	[1-532]
7846	[1-488]
7847	[1-467]
7848	[240-329]
7850	[1-100]
7851	[1-381]
7853	[1-58]
7855	[1-90]
7856	[1-118]
7858	[1-73]

Seq Id No.	Positions of preferred fragments
7860	[1-112]
7861	[1-100]
7862	[1-27],[140-184]
7864	[1-426]
7865	[1-367]
7866	[1-256]
7867	[1-452]
7870	[1-349]
7871	[1-177]
7872	[1-494]
7874	[1-216]
7875	[1-106]
7876	[1-172]
7877	[1-233]
7878	[1-155]
7879	[1-83]
7880	[124-265]
7881	[1-508]
7883	[1-314]
7884	[1-501]
7885	[1-344]
7886	[1-455]
7887	[1-401]
7888	[1-171]
7889	[1-77]
7890	[1-328]
7891	[1-395]
7892	[1-501]
7893	[1-94],[125-329]
7895	[1-170]
7896	[1-170]
7898	[1-475]
7899	[1-314]
7900	[1-476]
7901	[1-440]
7902	[1-357]
7903	[1-334]
7904	[1-164]
7906	[1-170]
7907	[1-170]
7909	[1-445]
7910	[1-51]
7911	[1-350],[454-479]
7912	[1-84]
7913	[1-168]
7914	[1-52]
7915	[1-123]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
7916	[1-31]	7970	[1-67]
7917	[1-321]	7971	[1-206]
7919	[1-271]	7972	[1-73]
7920	[40-171]	7973	[1-332]
7921	[1-356]	7976	[1-270]
7922	[1-299]	7977	[1-172]
7923	[1-354]	7978	[1-321]
7924	[1-455]	7979	[1-170]
7925	[1-425]	7982	[1-328]
7926	[1-83]	7983	[1-58]
7927	[1-313]	7984	[1-422]
7928	[1-314]	7985	[1-113]
7929	[1-313]	7986	[1-163]
7930	[1-328]	7987	[76-100]
7931	[1-178],[211-409],[448-483]	7988	[1-171]
7932	[1-125]	7989	[1-104]
7933	[1-314]	7990	[1-171]
7934	[1-294]	7991	[1-519]
7935	[1-408]	7992	[1-67]
7936	[1-279]	7993	[1-185]
7937	[1-65]	7994	[1-171]
7940	[1-263]	7995	[1-436]
7942	[1-315]	7996	[1-171]
7943	[1-458]	7997	[1-31]
7944	[1-309]	7999	[1-68]
7945	[1-238]	8000	[1-145],[343-385]
7946	[1-336]	8001	[1-324]
7947	[1-166]	8002	[1-481]
7948	[1-140]	8003	[1-481]
7949	[1-316]	8004	[1-421]
7950	[33-412]	8005	[309-333]
7951	[1-431]	8006	[1-58]
7952	[1-83]	8007	[1-475]
7953	[1-280]	8008	[373-435]
7954	[1-171]	8009	[1-314]
7955	[1-459]	8010	[1-337]
7956	[1-391]	8011	[1-310]
7957	[100-142]	8013	[1-376]
7958	[1-171]	8014	[1-463]
7960	[1-244]	8016	[1-60]
7961	[1-95]	8017	[1-408]
7962	[1-429]	8018	[1-103]
7963	[1-334]	8019	[1-73]
7964	[1-293]	8020	[1-96]
7966	[1-152]	8021	[1-121]
7967	[1-86]	8022	[1-67]
7968	[1-330]	8023	[1-58]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8024	[1-164]
8025	[1-104]
8027	[1-163]
8028	[1-103]
8030	[1-104]
8031	[1-104]
8032	[1-104]
8033	[1-77]
8034	[1-74]
8035	[1-104]
8036	[1-58]
8037	[1-104]
8038	[1-90]
8039	[1-65]
8040	[1-166]
8041	[1-103]
8042	[1-79]
8043	[1-103]
8044	[1-150]
8045	[1-360]
8046	[1-104]
8047	[1-71]
8048	[1-92]
8049	[1-103]
8050	[1-103]
8051	[1-132]
8052	[1-92]
8053	[1-103]
8054	[1-103]
8055	[1-88]
8056	[1-103]
8057	[1-57]
8058	[1-191]
8059	[1-75]
8060	[1-365]
8061	[1-65]
8062	[1-58]
8063	[1-335]
8064	[1-198]
8065	[1-165]
8066	[1-104]
8067	[1-165]
8068	[1-104]
8069	[1-84]
8070	[1-164]
8071	[1-235]
8072	[1-104]
8073	[1-177]
8074	[1-165]
8075	[1-104]
8076	[1-58]
8077	[1-454]
8078	[1-103]
8080	[1-103]
8081	[1-127]
8082	[1-102]
8084	[1-103]
8085	[1-146]
8086	[1-164]
8087	[1-103]
8088	[1-103]
8089	[1-58]
8090	[1-97]
8092	[1-103]
8093	[1-67]
8094	[1-114]
8095	[1-67]
8096	[1-58]
8097	[1-61]
8099	[1-377]
8100	[1-148]
8102	[1-58]
8103	[1-58]
8105	[1-234]
8106	[1-102]
8107	[1-95]
8108	[1-72]
8109	[1-147]
8110	[1-103]
8111	[1-104]
8112	[1-138]
8113	[1-103]
8114	[1-103]
8115	[1-104]
8116	[1-103]
8117	[1-58]
8118	[1-164]
8119	[1-58]
8120	[1-75]
8121	[1-76]
8123	[1-104]
8124	[1-58]
8125	[1-205]
8127	[1-165]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8128	[1-104]
8130	[1-317]
8133	[1-352]
8134	[1-390]
8135	[1-441]
8136	[291-316]
8137	[1-243]
8138	[1-368]
8140	[1-407]
8141	[1-390]
8143	[474-499]
8144	[1-537]
8145	[1-266]
8147	[1-414]
8149	[135-428]
8151	[1-160]
8152	[1-165]
8153	[1-111]
8154	[1-395]
8155	[1-445]
8156	[1-407]
8159	[1-170],[217-291],[344-396]
8160	[144-377]
8161	[1-385]
8162	[1-367]
8163	[1-153]
8164	[1-385]
8166	[1-325]
8167	[218-433]
8168	[1-423]
8170	[1-399]
8172	[1-72]
8173	[315-425]
8174	[1-444]
8175	[1-403]
8177	[1-438]
8178	[1-298]
8179	[1-292]
8180	[1-153]
8181	[1-352]
8182	[1-70]
8183	[1-347]
8184	[1-382]
8185	[1-318]
8186	[1-383]
8187	[1-430]
8188	[1-370]

Seq Id No.	Positions of preferred fragments
8191	[1-63]
8193	[1-55]
8194	[1-157]
8195	[1-183]
8196	[1-408]
8197	[1-460]
8198	[1-250],[355-459]
8199	[1-447]
8200	[1-62]
8201	[1-398]
8202	[1-448]
8203	[1-429]
8205	[1-29],[59-85]
8206	[1-321]
8207	[1-452]
8208	[1-183]
8210	[1-297]
8211	[1-167]
8212	[1-403]
8213	[1-172],[406-466]
8215	[1-428]
8217	[1-368]
8218	[1-180]
8219	[1-377]
8222	[1-359]
8223	[1-468]
8224	[1-407]
8226	[1-473]
8227	[1-535]
8228	[1-378]
8229	[1-432]
8230	[1-404]
8231	[1-72]
8233	[1-356]
8235	[1-452]
8236	[1-155]
8237	[1-432]
8238	[1-444]
8240	[1-116],[145-455]
8241	[1-189]
8242	[1-65],[180-221],[388-450]
8243	[1-243]
8244	[1-463]
8245	[1-446]
8246	[1-473]
8247	[1-549]
8248	[1-506]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
8249	[1-525]	8310	[1-333]
8250	[1-435]	8311	[1-414]
8251	[1-413]	8312	[1-228]
8252	[1-299]	8313	[1-432]
8253	[1-350]	8315	[1-361]
8254	[1-430]	8316	[1-41]
8257	[1-63]	8317	[1-416]
8259	[1-420]	8319	[1-433]
8261	[1-419]	8320	[1-337]
8262	[1-39]	8321	[1-398]
8263	[1-33]	8322	[1-396]
8264	[1-139]	8323	[1-353]
8265	[1-188]	8324	[1-459]
8267	[1-447]	8325	[1-307]
8269	[1-256],[298-467]	8327	[1-277]
8271	[1-374]	8328	[1-141]
8272	[1-196]	8329	[1-360]
8273	[1-468]	8330	[1-349]
8274	[1-374]	8331	[1-457]
8275	[1-395]	8333	[1-167]
8276	[1-498]	8334	[1-386]
8277	[1-240]	8335	[1-242]
8278	[315-479]	8336	[1-356]
8279	[51-75],[124-160],[230-277],[348-413]	8337	[1-56]
8281	[1-180]	8338	[1-311]
8282	[1-62]	8340	[1-131]
8283	[1-442]	8341	[1-440]
8284	[1-480]	8342	[48-391]
8286	[1-202]	8343	[1-422]
8289	[1-316]	8345	[1-359]
8290	[1-290]	8346	[1-387]
8291	[1-58]	8348	[1-365]
8292	[1-326],[394-457]	8349	[1-327]
8294	[1-287]	8351	[1-477]
8295	[1-218]	8353	[1-272]
8296	[50-222]	8355	[1-83]
8297	[1-280]	8356	[1-534]
8299	[1-127],[203-244],[283-339]	8358	[1-472]
8300	[1-369]	8359	[1-416]
8302	[1-168]	8360	[1-424]
8303	[1-66]	8361	[1-349]
8304	[1-106]	8363	[1-361]
8305	[1-358]	8364	[1-344]
8306	[1-425]	8366	[1-268]
8307	[1-38],[212-393]	8367	[1-370]
8308	[1-153],[296-338]	8368	[1-327]
8309	[1-216]	8369	[1-360]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8370	[1-498]
8371	[1-77]
8372	[1-389]
8374	[1-398]
8375	[1-405]
8376	[1-143],[257-383]
8377	[1-150]
8378	[1-412]
8379	[1-378]
8380	[1-464]
8381	[1-351]
8382	[1-51]
8383	[1-159]
8384	[1-440]
8385	[1-438]
8386	[104-421]
8389	[1-445]
8390	[1-442]
8391	[1-419]
8393	[1-463]
8394	[77-237]
8395	[1-360]
8396	[1-314]
8397	[1-439]
8398	[1-328]
8399	[1-398]
8400	[1-96]
8401	[1-557]
8402	[1-446]
8404	[1-155]
8406	[1-221]
8408	[1-41]
8409	[138-229]
8410	[1-108]
8411	[1-329]
8412	[1-271]
8413	[1-492]
8417	[1-340]
8418	[1-226]
8420	[1-67]
8421	[1-484]
8422	[1-52]
8423	[1-50]
8424	[1-312]
8425	[1-157]
8426	[30-83]
8427	[1-504]

Seq Id No.	Positions of preferred fragments
8428	[1-395]
8429	[1-438]
8430	[1-73]
8431	[1-79]
8432	[1-232]
8434	[1-427]
8435	[1-309]
8436	[1-586]
8437	[1-423]
8438	[1-465]
8439	[1-304]
8440	[1-68]
8441	[1-125]
8443	[1-330]
8444	[1-403]
8445	[1-419]
8446	[158-265]
8447	[1-67]
8448	[1-238]
8449	[1-449]
8451	[1-349]
8452	[1-547]
8453	[1-75]
8455	[1-349]
8456	[1-350]
8458	[1-378]
8460	[1-77]
8461	[1-494]
8462	[1-421]
8464	[1-369]
8465	[1-480]
8466	[1-508]
8467	[1-460]
8468	[1-466]
8470	[1-430]
8471	[1-332]
8472	[1-445]
8473	[1-375]
8474	[1-256]
8475	[1-355]
8476	[1-342]
8477	[1-38]
8478	[1-445]
8479	[1-206]
8480	[1-138]
8481	[1-67]
8482	[1-29]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8483	[1-270]
8484	[1-317]
8485	[1-312]
8486	[1-324]
8487	[1-203]
8488	[1-355]
8489	[1-328]
8490	[1-58]
8491	[1-361]
8493	[97-127]
8495	[1-395]
8497	[1-403]
8499	[1-226],[391-416]
8500	[1-432]
8501	[1-462]
8502	[1-451]
8503	[1-365]
8504	[1-359]
8505	[1-375]
8506	[1-364]
8507	[1-401]
8508	[395-421]
8509	[1-429]
8510	[1-406]
8511	[1-394]
8512	[1-427]
8514	[1-396]
8515	[1-494]
8516	[1-350]
8517	[1-388]
8518	[1-322]
8519	[1-286]
8520	[1-150]
8521	[1-303]
8522	[1-157]
8523	[1-354]
8524	[1-398]
8525	[1-83]
8526	[1-326]
8527	[1-315]
8528	[41-374]
8529	[1-460]
8534	[1-369]
8535	[1-154]
8536	[1-433]
8537	[1-391]
8538	[1-459]

Seq Id No.	Positions of preferred fragments
8539	[1-351]
8540	[1-423]
8541	[1-394]
8543	[1-480]
8544	[1-408]
8545	[1-302]
8546	[1-348]
8547	[1-84]
8548	[1-88]
8549	[1-183]
8550	[1-146]
8551	[1-147]
8552	[1-149]
8553	[1-167]
8554	[1-474]
8555	[1-426]
8556	[1-404]
8557	[1-318]
8560	[1-442]
8561	[1-318]
8562	[1-317]
8563	[1-184]
8564	[1-136]
8565	[1-307]
8566	[1-207]
8567	[1-136]
8568	[1-395]
8570	[1-184]
8571	[1-67]
8572	[1-387]
8574	[1-416]
8575	[1-331]
8576	[1-68]
8577	[1-483]
8578	[1-386]
8579	[1-363]
8580	[1-385]
8581	[30-202]
8584	[1-144]
8585	[1-361]
8586	[1-439]
8587	[1-166]
8588	[1-103]
8589	[1-151]
8591	[1-362]
8593	[1-80]
8594	[1-84]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8597	[1-144]
8598	[1-348]
8599	[1-363]
8600	[1-126]
8603	[1-132]
8605	[1-114]
8606	[1-84]
8609	[1-73]
8611	[1-103]
8613	[1-89]
8614	[1-361]
8616	[1-361]
8617	[1-164]
8620	[1-345]
8621	[1-361]
8622	[1-58]
8623	[1-159]
8625	[1-97]
8626	[1-103]
8628	[1-58]
8630	[1-164]
8632	[1-139]
8633	[1-103]
8635	[1-103]
8636	[1-164]
8637	[1-103]
8638	[1-361]
8639	[1-75]
8641	[1-58]
8643	[1-361]
8644	[1-148]
8645	[1-58]
8646	[1-58]
8647	[1-361]
8649	[1-103]
8651	[1-166]
8652	[1-77]
8653	[1-51]
8654	[1-363]
8655	[1-159]
8656	[1-150]
8657	[1-359]
8658	[1-167]
8659	[1-103]
8661	[1-103]
8663	[1-84]
8665	[1-152]
8666	[1-84]
8667	[1-288],[405-468]
8668	[1-58]
8671	[1-116]
8672	[1-97]
8673	[1-82]
8675	[1-222]
8677	[1-164]
8678	[1-291],[408-449]
8679	[1-56]
8680	[1-73]
8681	[1-73]
8682	[1-186]
8684	[1-164]
8685	[1-103]
8687	[1-83]
8689	[1-366]
8690	[1-116]
8691	[1-79]
8692	[1-82]
8693	[1-84]
8694	[1-90]
8696	[1-513]
8697	[1-500]
8698	[1-455]
8699	[1-238]
8700	[1-332]
8701	[1-530]
8702	[1-451]
8703	[176-271]
8704	[1-447]
8705	[111-141]
8706	[1-500]
8707	[1-485]
8708	[1-483]
8709	[1-48],[153-433]
8710	[1-260]
8711	[1-251]
8712	[1-115]
8713	[1-447]
8714	[1-431]
8715	[1-454]
8716	[1-62]
8717	[1-309]
8718	[1-384]
8719	[1-375]
8721	[1-236]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
8722	[1-329]
8723	[1-159]
8724	[1-67]
8726	[141-199]
8727	[1-390]
8728	[1-28]
8730	[1-201]
8731	[1-178]
8732	[1-291],[408-465]
8733	[1-172]
8734	[1-384]
8735	[1-78]
8736	[1-52]
8738	[1-294]
8739	[1-398]
8740	[1-337]
8741	[1-81]
8742	[1-283],[400-455]
8743	[1-377]
8744	[1-287]
8745	[1-284]
8746	[1-319]
8749	[1-81]
8750	[1-409]
8751	[1-291],[408-476]
8752	[1-354]
8753	[1-327]
8754	[1-422]
8755	[1-150]
8756	[1-94]
8757	[1-148]
8758	[1-290]
8759	[1-289]
8760	[1-314]
8761	[1-154]
8762	[1-203]
8763	[1-374]
8764	[58-360]
8765	[1-384]
8766	[1-73]
8767	[1-375]
8768	[1-281],[398-448]
8769	[1-341]
8770	[1-222],[278-342]
8771	[1-236]
8772	[1-386]
8773	[152-211]
8775	[30-336]
8776	[1-273]
8777	[1-226]
8778	[1-226]
8779	[1-276]
8780	[1-215]
8781	[1-410]
8782	[1-136]
8783	[1-73]
8784	[1-139]
8785	[1-396]
8786	[1-251]
8787	[1-399]
8788	[1-509]
8789	[1-446]
8790	[1-464]
8791	[1-461]
8792	[1-235]
8793	[1-408]
8794	[1-421]
8796	[1-159]
8797	[1-71]
8798	[1-354]
8799	[1-408]
8800	[1-295]
8801	[1-457]
8802	[1-83]
8803	[1-158]
8804	[196-530]
8805	[1-361]
8806	[1-158]
8807	[1-314]
8808	[1-448]
8810	[1-181]
8811	[30-207]
8812	[1-408]
8813	[1-372]
8814	[1-495]
8815	[1-433]
8816	[1-471]
8817	[1-84]
8818	[1-444]
8819	[1-472]
8820	[1-384]
8821	[1-410]
8822	[1-419]
8824	[1-95]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
8825	[1-54]	8878	[1-103]
8826	[1-485]	8879	[1-94]
8827	[1-434]	8881	[1-149]
8828	[1-487]	8883	[1-95]
8829	[1-281]	8885	[1-442]
8830	[1-544]	8886	[1-148]
8831	[1-74]	8887	[1-103]
8833	[1-103]	8888	[1-58]
8834	[1-103]	8889	[1-103]
8836	[1-103]	8890	[1-361]
8837	[1-58]	8892	[1-103]
8838	[1-361]	8893	[1-188]
8839	[1-76]	8894	[1-103]
8840	[1-71]	8896	[1-58]
8841	[1-475]	8897	[1-58]
8842	[1-76]	8898	[1-103]
8843	[1-130]	8899	[1-150]
8844	[1-103]	8900	[1-128]
8845	[1-133]	8901	[1-103]
8846	[1-103]	8902	[1-84]
8847	[1-362]	8903	[1-89]
8848	[1-103]	8904	[1-89]
8849	[1-73]	8905	[1-212]
8850	[1-103]	8907	[1-95]
8852	[1-103]	8908	[1-413]
8855	[1-103]	8909	[1-58]
8856	[1-103]	8910	[1-58]
8857	[1-103]	8911	[1-103]
8858	[1-84]	8912	[1-103]
8859	[1-95]	8913	[1-103]
8860	[1-58]	8914	[1-104]
8862	[1-379]	8915	[1-58]
8863	[1-149]	8916	[1-103]
8864	[1-103]	8917	[1-103]
8865	[1-103]	8918	[1-103]
8866	[1-58]	8919	[1-95]
8867	[1-71]	8921	[1-58]
8868	[1-103]	8922	[1-73]
8869	[1-164]	8925	[1-84]
8870	[1-103]	8926	[1-103]
8871	[1-89]	8927	[1-353]
8872	[1-381]	8928	[1-164]
8873	[1-482]	8929	[1-76]
8874	[1-103]	8930	[1-361]
8875	[1-103]	8931	[1-103]
8876	[1-95]	8932	[1-104]
8877	[1-95]	8935	[1-132]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
8936	[1-103]	8994	[1-522]
8937	[1-362]	8995	[1-206]
8938	[1-103]	8996	[1-62]
8939	[1-103]	8998	[1-603]
8942	[1-149]	9000	[1-169]
8944	[1-103]	9001	[1-446]
8946	[1-392]	9002	[1-341]
8947	[1-138]	9003	[1-381]
8948	[1-65]	9004	[1-171]
8950	[1-95]	9005	[1-366]
8951	[1-88]	9006	[1-349]
8952	[1-152]	9007	[1-452]
8955	[1-445]	9008	[1-425]
8957	[1-95]	9010	[1-27]
8958	[1-103]	9011	[1-380]
8959	[1-95]	9012	[1-468]
8960	[1-104]	9013	[1-443]
8961	[1-89]	9014	[1-81]
8962	[1-90]	9015	[1-381]
8963	[1-103]	9016	[1-515]
8964	[1-103]	9017	[1-442]
8965	[1-114]	9018	[1-460]
8966	[1-256]	9019	[1-261]
8967	[1-103]	9020	[1-411]
8968	[1-103]	9021	[278-303]
8969	[1-89]	9023	[1-459]
8970	[1-103]	9024	[1-387]
8971	[1-152]	9025	[1-76]
8972	[1-164]	9026	[1-472]
8973	[1-94]	9027	[1-315]
8974	[1-103]	9028	[1-385]
8975	[1-103]	9029	[1-465]
8976	[1-399]	9030	[1-470]
8977	[1-96]	9032	[1-62]
8978	[1-103]	9033	[93-136]
8980	[1-103]	9034	[1-422]
8981	[1-92]	9035	[1-83]
8982	[1-372]	9037	[1-117]
8983	[1-430]	9038	[1-72]
8984	[1-418]	9039	[1-442]
8986	[1-323]	9040	[1-139]
8987	[1-542]	9041	[1-164],[286-523]
8989	[1-410]	9042	[45-432]
8990	[1-247]	9043	[1-455]
8991	[1-89]	9045	[1-372]
8992	[1-478]	9046	[1-508]
8993	[1-530]	9047	[1-467]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9048	[1-461]
9049	[1-232]
9050	[1-132]
9051	[109-434]
9052	[1-63]
9054	[1-392]
9055	[1-404]
9056	[1-149]
9057	[1-386]
9058	[1-381]
9059	[1-79]
9060	[1-459]
9063	[1-181]
9064	[1-439]
9067	[1-319]
9068	[1-485]
9069	[1-487]
9071	[1-447]
9072	[1-403]
9073	[1-327]
9074	[1-463]
9075	[1-385]
9076	[1-372]
9079	[1-223]
9080	[1-209]
9081	[1-370]
9083	[1-511]
9084	[1-468]
9085	[1-459]
9086	[1-97]
9087	[1-498]
9088	[1-183]
9089	[1-471]
9090	[1-219]
9091	[1-448]
9093	[1-175]
9094	[1-267]
9095	[1-156]
9096	[1-151],[237-305]
9097	[1-556]
9098	[1-429]
9099	[1-475]
9100	[1-442]
9101	[1-475]
9102	[1-460]
9103	[1-413]
9104	[1-26]

Seq Id No.	Positions of preferred fragments
9105	[1-72],[201-248]
9106	[1-464]
9107	[1-157]
9108	[1-470]
9109	[1-251]
9110	[1-247]
9111	[1-452]
9112	[1-416]
9113	[1-444]
9114	[1-359]
9115	[1-298]
9116	[1-326]
9117	[1-312]
9118	[1-194]
9119	[1-258]
9121	[116-434]
9122	[1-212]
9123	[1-410]
9125	[1-422]
9126	[1-390]
9127	[1-453]
9128	[107-496]
9130	[1-275]
9132	[1-27],[82-170]
9133	[1-93]
9134	[1-94]
9135	[1-303]
9136	[1-235]
9138	[59-89],[188-335]
9139	[1-380]
9140	[1-294]
9141	[1-184],[262-304]
9142	[1-359]
9143	[1-366]
9144	[1-373]
9145	[1-350]
9147	[1-412]
9148	[1-422]
9149	[1-447]
9150	[1-432]
9151	[1-369]
9154	[1-439]
9155	[1-56]
9156	[1-423]
9157	[1-426]
9158	[1-432]
9159	[1-433]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9161	[1-436]
9163	[1-277]
9164	[1-395]
9167	[1-168]
9168	[1-401]
9170	[1-30]
9171	[1-404]
9172	[152-424]
9174	[1-390]
9175	[97-473]
9176	[1-261],[349-428]
9177	[1-384]
9178	[1-470]
9179	[1-435]
9180	[1-185]
9181	[1-278],[326-424]
9182	[1-435]
9183	[1-427]
9184	[1-422]
9185	[1-392]
9186	[1-191]
9187	[1-411]
9188	[1-460]
9189	[1-426]
9190	[1-308]
9191	[1-224],[253-380]
9194	[1-371]
9195	[1-167]
9197	[1-418]
9198	[1-383]
9200	[1-446]
9201	[1-420]
9202	[1-442]
9203	[1-414]
9204	[1-423]
9205	[81-149]
9206	[1-89]
9207	[1-378]
9209	[1-448]
9210	[1-283],[325-434]
9213	[1-457]
9214	[1-388]
9215	[1-429]
9216	[1-56]
9217	[1-39],[169-465]
9219	[1-448]
9220	[1-225]
9221	[1-452]
9222	[1-451]
9223	[1-449]
9224	[1-277]
9225	[1-97]
9226	[1-355]
9228	[218-371]
9229	[82-384]
9230	[1-379]
9231	[1-409]
9233	[1-427]
9234	[1-425]
9235	[1-438]
9236	[1-435]
9237	[1-88]
9238	[1-455]
9240	[1-73],[234-374]
9241	[1-483]
9242	[1-97],[135-496]
9243	[1-214]
9244	[1-439]
9245	[1-472]
9246	[1-409]
9247	[1-398]
9248	[1-387]
9250	[1-203]
9251	[1-440]
9252	[1-163]
9255	[1-402]
9256	[1-531]
9257	[1-402]
9258	[1-461]
9259	[1-504]
9260	[1-291]
9262	[1-519]
9263	[1-466]
9265	[1-333]
9266	[1-534]
9268	[1-487]
9269	[1-63],[214-357]
9270	[1-424]
9271	[1-302],[341-578]
9272	[1-471]
9273	[1-449]
9274	[1-305]
9275	[1-450]
9276	[1-275],[305-419]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9277	[1-398]
9278	[395-447]
9279	[1-512]
9280	[1-178]
9281	[1-368]
9282	[31-457]
9283	[164-208]
9284	[1-417]
9285	[1-347]
9286	[1-438]
9287	[1-126]
9288	[1-495]
9289	[1-485]
9290	[1-239]
9291	[1-431]
9292	[1-463]
9294	[1-193],[320-444]
9295	[1-463]
9298	[1-271]
9299	[1-299]
9300	[37-85]
9302	[1-293]
9303	[1-385]
9304	[1-451]
9305	[1-444]
9306	[1-510]
9307	[1-420]
9309	[1-535]
9310	[1-534]
9311	[1-370]
9312	[1-484]
9313	[1-538]
9314	[1-81]
9315	[1-443]
9316	[1-440]
9317	[1-441]
9319	[1-424]
9320	[1-446]
9322	[1-390]
9323	[1-217]
9324	[1-258]
9326	[1-369]
9327	[1-452]
9328	[1-336]
9329	[1-272]
9331	[1-437]
9332	[1-210],[286-425]
9333	[1-234]
9334	[1-472]
9335	[1-166]
9336	[1-276],[308-381]
9337	[1-425]
9338	[1-447]
9339	[1-483]
9341	[1-447]
9342	[1-399]
9343	[1-202]
9344	[1-432]
9345	[1-138]
9346	[1-420]
9347	[1-168],[314-422]
9348	[1-87]
9349	[1-430]
9350	[1-513]
9351	[1-470]
9352	[1-477]
9353	[1-490]
9355	[1-415]
9356	[1-443]
9357	[1-389]
9358	[1-475]
9359	[1-385]
9360	[1-538]
9361	[1-225]
9362	[1-64]
9363	[1-415]
9364	[1-413]
9365	[1-425]
9366	[70-132],[308-456]
9367	[1-498]
9368	[1-373]
9369	[1-390]
9370	[1-544]
9371	[1-451]
9372	[1-272]
9373	[1-420]
9374	[1-426]
9375	[1-237]
9376	[1-438]
9377	[1-480]
9378	[1-444]
9379	[1-482]
9380	[1-250]
9381	[1-305]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
9382	[1-325]	9439	[1-234]
9383	[1-381]	9441	[1-444]
9385	[1-436]	9442	[1-418]
9386	[1-127]	9443	[1-223]
9387	[1-336]	9444	[1-238]
9389	[1-510]	9445	[1-467]
9390	[1-447]	9447	[1-405]
9391	[1-433]	9448	[1-191]
9392	[1-104]	9449	[1-416]
9393	[1-435]	9450	[1-415]
9395	[1-423]	9452	[1-279]
9396	[1-485]	9453	[1-328]
9397	[1-471]	9454	[1-392]
9399	[1-255],[286-420]	9455	[1-235]
9400	[1-411]	9456	[1-537]
9401	[1-407]	9457	[249-375]
9402	[1-263]	9458	[1-103]
9403	[1-176]	9460	[1-71]
9404	[1-317]	9461	[1-59]
9405	[1-455]	9462	[145-216]
9406	[1-255]	9463	[1-328]
9407	[1-276]	9464	[1-91]
9408	[1-454]	9466	[1-341]
9411	[1-553]	9467	[1-165]
9412	[1-451]	9468	[1-104]
9413	[1-407]	9469	[1-107]
9414	[1-308]	9470	[1-358]
9415	[204-408]	9471	[1-308]
9416	[1-305]	9472	[1-104]
9417	[1-439]	9473	[1-101]
9419	[1-430]	9474	[1-381]
9420	[1-368]	9475	[1-107]
9421	[1-413]	9476	[1-104]
9422	[1-422]	9477	[1-97]
9424	[356-435]	9478	[1-60]
9425	[1-426]	9480	[1-52]
9426	[1-490]	9481	[1-323]
9427	[1-302]	9482	[1-96]
9428	[1-234]	9483	[1-59]
9429	[1-440]	9484	[1-399]
9430	[1-560]	9485	[1-103]
9431	[1-442]	9486	[1-61]
9432	[1-61]	9487	[1-107]
9433	[1-398]	9489	[1-96]
9434	[1-119]	9491	[1-88]
9435	[1-436]	9492	[1-107]
9437	[114-160]	9494	[1-83]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9495	[1-88]
9496	[1-102]
9498	[1-350]
9499	[1-107]
9500	[1-58]
9501	[1-96]
9502	[1-112]
9503	[1-54]
9504	[1-105]
9505	[1-107]
9507	[1-104]
9508	[1-101]
9510	[1-316]
9511	[1-421]
9513	[1-351]
9514	[1-352]
9515	[1-377]
9516	[1-162],[237-297]
9518	[1-240]
9519	[1-521]
9520	[99-295]
9521	[1-579]
9522	[1-83]
9523	[1-383]
9525	[1-328]
9526	[1-160]
9527	[1-245]
9528	[1-505]
9530	[33-81],[113-335]
9531	[1-453]
9532	[1-434]
9534	[1-398]
9535	[1-493]
9536	[320-348]
9537	[1-680]
9538	[1-535]
9539	[1-239]
9540	[1-438]
9541	[1-498]
9542	[1-44]
9543	[1-72],[173-429]
9544	[1-410]
9545	[1-371]
9546	[1-511]
9548	[1-73]
9549	[1-527]
9550	[1-487]
9552	[1-355]
9553	[1-173]
9556	[264-405]
9559	[1-488]
9561	[1-53],[251-369]
9562	[1-274]
9563	[1-363]
9564	[1-361]
9565	[1-395]
9566	[1-444]
9567	[1-110],[153-191],[279-464]
9568	[1-485]
9569	[1-332]
9570	[1-428]
9571	[1-501]
9572	[1-511]
9573	[1-76]
9574	[1-454]
9575	[93-179]
9576	[1-318]
9577	[1-264]
9578	[1-448]
9579	[1-455]
9580	[1-474]
9581	[1-468]
9582	[1-426]
9583	[1-141]
9584	[1-192]
9585	[1-359]
9586	[1-115]
9587	[1-138]
9588	[1-63]
9589	[1-72]
9590	[1-73]
9591	[1-135]
9592	[1-78]
9594	[1-331]
9595	[73-138]
9596	[1-194]
9597	[1-456]
9598	[1-403]
9600	[1-402]
9601	[1-423]
9602	[1-114]
9603	[1-366]
9604	[1-78]
9605	[1-60]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9606	[1-435]
9608	[86-163]
9609	[1-397]
9610	[55-502]
9611	[1-431]
9612	[1-420]
9613	[1-248],[380-459]
9614	[1-478]
9615	[1-336]
9616	[1-386]
9617	[1-86]
9618	[79-117]
9619	[1-357]
9620	[1-422]
9621	[1-80]
9622	[1-511]
9624	[1-44]
9625	[1-327]
9626	[1-86]
9627	[1-101],[144-452]
9629	[1-233]
9630	[1-321]
9631	[1-308]
9632	[1-391]
9633	[174-274],[414-455]
9634	[1-433]
9635	[1-292]
9636	[1-37],[82-274]
9638	[1-369]
9639	[1-473]
9640	[1-292]
9643	[1-266]
9645	[1-501]
9646	[1-134]
9647	[1-364]
9648	[1-347]
9649	[1-157]
9650	[1-171]
9651	[1-430]
9652	[1-389]
9654	[1-206]
9655	[1-137]
9656	[1-111]
9657	[1-244]
9658	[1-332]
9659	[1-80]
9660	[1-389]
9661	[1-76]
9662	[1-446]
9663	[1-204]
9664	[1-456]
9665	[1-469]
9666	[1-452]
9667	[1-216]
9668	[1-195],[372-474]
9669	[1-285]
9671	[1-81]
9672	[1-481]
9674	[1-41]
9677	[1-434]
9678	[1-170]
9680	[1-97]
9681	[1-372]
9682	[1-432]
9683	[1-323]
9684	[1-432]
9685	[1-90]
9686	[1-461]
9687	[1-361]
9688	[1-416]
9689	[1-67]
9690	[1-440]
9691	[1-387]
9692	[1-445]
9693	[1-51]
9694	[1-254]
9695	[1-421]
9696	[1-458]
9697	[1-391]
9698	[1-86]
9699	[1-432]
9701	[1-336]
9702	[1-399]
9703	[1-89]
9704	[1-323]
9705	[1-407]
9706	[1-383]
9707	[1-463]
9708	[1-64],[288-405]
9710	[1-367]
9711	[31-178]
9712	[44-71]
9713	[1-103]
9714	[1-369]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
9715	[1-316]	9769	[299-466]
9717	[1-359]	9770	[1-440]
9718	[1-57]	9771	[1-407]
9719	[1-434]	9772	[1-443]
9721	[1-378]	9773	[1-89]
9722	[1-55],[118-165],[195-368]	9774	[1-151]
9723	[1-300]	9775	[1-424]
9724	[1-227]	9776	[186-248]
9726	[117-183]	9777	[1-322]
9727	[1-167]	9779	[1-106]
9728	[1-67]	9782	[1-431]
9729	[1-356]	9783	[1-353]
9730	[1-58]	9784	[1-346]
9731	[1-621]	9785	[1-435]
9732	[1-207]	9786	[1-380]
9733	[1-87]	9787	[1-362]
9734	[1-63]	9788	[1-500]
9735	[1-135]	9789	[1-250],[302-429]
9736	[1-93]	9790	[1-375]
9738	[1-130],[218-273]	9792	[1-299]
9739	[1-146]	9793	[1-356]
9740	[1-61]	9794	[46-456]
9741	[1-57]	9795	[1-33],[68-385]
9743	[1-146]	9796	[1-374]
9744	[1-337]	9797	[1-393]
9745	[1-78]	9799	[1-425]
9746	[1-60]	9801	[1-462]
9747	[1-415]	9802	[1-91]
9748	[1-76],[269-410]	9803	[1-131],[191-236]
9749	[1-88],[196-406]	9804	[1-254]
9750	[1-109]	9805	[1-351]
9751	[1-371]	9806	[1-425]
9752	[1-103]	9807	[1-68]
9753	[1-83]	9808	[1-394]
9754	[1-224]	9809	[1-463]
9755	[1-462]	9810	[1-368]
9756	[1-86]	9811	[1-62]
9757	[1-398]	9812	[1-502]
9759	[1-487]	9813	[1-500]
9760	[1-130]	9814	[1-500]
9761	[1-432]	9815	[1-416]
9762	[1-483]	9817	[1-471]
9763	[1-323]	9819	[1-472]
9764	[1-337]	9820	[1-482]
9766	[1-284]	9821	[1-441]
9767	[1-76]	9822	[1-444]
9768	[1-135]	9823	[1-237]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9824	[1-79]
9825	[1-452]
9826	[1-155]
9827	[1-438]
9828	[1-463]
9829	[1-487]
9830	[1-479]
9831	[1-79]
9832	[1-426]
9833	[1-369]
9834	[1-500]
9835	[1-343]
9836	[1-62]
9837	[1-72]
9838	[1-507]
9839	[1-574]
9840	[1-303]
9841	[1-78]
9842	[1-415]
9843	[1-33],[152-214]
9844	[1-529]
9845	[1-71]
9846	[1-424]
9847	[1-455]
9848	[1-339]
9849	[1-449]
9850	[1-117]
9851	[1-173]
9852	[1-415]
9853	[1-387]
9854	[1-396]
9855	[1-92]
9856	[1-280]
9857	[1-440]
9858	[1-429]
9859	[1-488]
9860	[1-438]
9862	[1-472]
9863	[1-345]
9864	[1-110]
9865	[1-157]
9866	[1-461]
9867	[32-237]
9868	[1-144]
9870	[1-356]
9872	[1-424]
9873	[1-175]
9875	[1-452]
9877	[1-426]
9878	[1-439]
9879	[1-504]
9880	[1-194]
9881	[1-483]
9884	[1-345]
9886	[1-359]
9887	[118-444]
9889	[1-461]
9890	[1-79]
9891	[1-74],[306-439]
9893	[1-482]
9895	[1-379]
9896	[1-449]
9897	[1-478]
9898	[1-414]
9899	[1-177]
9900	[1-245]
9901	[1-425]
9902	[1-155]
9903	[1-234],[270-308]
9904	[1-79]
9905	[1-77]
9906	[1-429]
9907	[1-143]
9908	[1-180]
9909	[1-265]
9910	[1-424]
9911	[1-73]
9912	[1-309]
9913	[1-414]
9914	[1-442]
9915	[112-167]
9916	[1-138]
9917	[1-412]
9918	[1-891]
9919	[1-200]
9921	[1-164]
9923	[1-414]
9924	[1-169]
9925	[1-69]
9926	[1-441]
9928	[1-457]
9929	[1-54]
9930	[218-251]
9931	[1-419]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
9934	[1-207]
9935	[1-413]
9936	[1-440]
9939	[1-328]
9940	[1-400]
9941	[1-161]
9947	[1-64]
9948	[1-219]
9949	[1-190]
9950	[1-188]
9951	[1-140]
9952	[1-188]
9953	[1-176]
9954	[1-176]
9955	[1-479]
9956	[1-400]
9957	[1-380]
9958	[1-112]
9959	[1-423]
9960	[1-128]
9961	[1-364]
9963	[1-185]
9964	[1-469]
9966	[1-72]
9967	[1-104]
9968	[1-176]
9970	[1-434]
9971	[1-439]
9972	[1-114]
9973	[1-349]
9974	[1-505]
9975	[1-86]
9976	[1-487]
9977	[1-338]
9978	[1-188]
9979	[1-438]
9980	[1-201]
9981	[1-283]
9982	[1-55]
9983	[1-388]
9984	[1-71]
9985	[1-485]
9986	[1-162]
9987	[1-455]
9988	[116-488]
9990	[1-491]
9991	[1-500]
9992	[1-448]
9993	[1-355]
9994	[1-77]
9995	[1-481]
9996	[1-367]
9997	[1-86]
9998	[1-327]
9999	[217-348]
10000	[1-479]
10001	[1-391]
10002	[1-325]
10004	[1-437]
10005	[1-364]
10006	[1-476]
10008	[1-415]
10009	[1-289]
10010	[1-440]
10011	[1-326]
10012	[276-361]
10013	[1-514]
10014	[1-476]
10015	[1-289]
10016	[1-411]
10017	[1-246]
10018	[1-432]
10019	[1-502]
10020	[1-326]
10021	[1-106]
10022	[1-445]
10023	[1-212]
10024	[1-119]
10025	[1-337]
10026	[1-146]
10027	[1-468]
10028	[1-396]
10029	[1-436]
10030	[1-452]
10031	[1-471]
10032	[1-376],[422-527]
10033	[1-463]
10034	[1-461]
10035	[1-439]
10036	[1-86]
10037	[1-478]
10038	[1-36]
10039	[1-393]
10040	[1-435]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10041	[1-177],[307-433]
10042	[1-43]
10044	[1-461]
10045	[1-135]
10046	[1-72]
10047	[1-78]
10048	[1-230]
10049	[1-162]
10051	[1-120]
10052	[1-329]
10053	[225-438]
10054	[1-120]
10055	[1-227]
10056	[1-94]
10057	[1-430]
10058	[1-473]
10059	[1-161]
10060	[1-344]
10061	[1-496]
10062	[1-382]
10063	[160-272]
10064	[1-530]
10066	[1-398]
10067	[1-170]
10068	[1-404]
10069	[1-103]
10070	[1-120]
10071	[1-261]
10072	[1-322]
10073	[1-509]
10074	[1-399]
10075	[1-484]
10076	[1-292]
10077	[1-316]
10078	[1-390]
10079	[1-498]
10080	[1-223]
10082	[1-284]
10083	[1-410]
10084	[1-407]
10085	[47-345]
10086	[1-136]
10087	[1-461]
10088	[1-519]
10089	[1-187]
10090	[1-465]
10091	[1-67]
10092	[1-476]
10093	[1-445]
10094	[1-227]
10095	[1-398]
10096	[1-67]
10097	[1-46],[129-502]
10098	[1-445]
10099	[1-339]
10100	[1-456]
10101	[1-208]
10102	[1-126]
10103	[1-146]
10105	[1-466]
10106	[172-441]
10107	[1-324]
10108	[1-41]
10109	[1-379]
10110	[1-292]
10111	[1-417]
10112	[1-81]
10113	[1-467]
10115	[1-432]
10116	[1-289]
10117	[1-173],[230-335],[365-423]
10118	[1-89]
10120	[1-341]
10121	[1-201]
10122	[1-436]
10123	[1-405]
10124	[1-343]
10125	[1-473]
10126	[1-451]
10127	[1-342]
10128	[1-228]
10129	[1-414]
10130	[1-107]
10131	[1-89]
10133	[1-78]
10134	[1-125]
10135	[1-49]
10136	[1-107]
10137	[1-257]
10138	[1-429]
10139	[1-337]
10140	[1-476]
10141	[1-308]
10142	[1-61]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10144	[1-51]
10145	[1-72]
10146	[1-368]
10148	[1-145]
10149	[1-444]
10150	[1-434]
10151	[1-142]
10152	[1-443]
10153	[1-496]
10154	[1-119]
10155	[1-330]
10156	[1-50]
10157	[1-347]
10158	[1-343]
10159	[1-252]
10161	[1-67]
10162	[1-323]
10163	[1-345]
10166	[1-375]
10167	[1-476]
10169	[1-355]
10170	[1-472]
10171	[1-467]
10172	[1-327]
10173	[1-326]
10175	[389-488]
10177	[1-433]
10178	[1-246]
10179	[72-108]
10180	[1-492]
10181	[1-77]
10182	[1-188]
10183	[1-40]
10184	[1-191]
10185	[1-255]
10186	[1-326]
10187	[1-503]
10188	[1-161]
10190	[1-314]
10191	[1-136]
10192	[1-337]
10193	[1-271]
10194	[89-418]
10196	[1-77]
10197	[1-76]
10198	[1-398]
10199	[1-452]
10200	[1-476]
10201	[1-78]
10202	[289-365]
10203	[1-257]
10204	[1-215]
10205	[1-379]
10206	[1-92]
10207	[1-487]
10208	[1-51]
10209	[1-367]
10210	[1-88]
10211	[1-299]
10212	[1-435]
10213	[1-77]
10214	[1-322]
10215	[1-288]
10216	[1-391]
10217	[1-490]
10218	[1-448]
10219	[1-39],[82-455]
10220	[1-279]
10221	[1-477]
10222	[1-386]
10223	[1-395]
10224	[1-359]
10226	[55-102]
10227	[1-271]
10228	[1-570]
10229	[1-252]
10230	[1-488]
10231	[1-328]
10233	[1-429]
10234	[1-361]
10235	[1-306]
10236	[1-407]
10237	[1-250]
10238	[1-252]
10239	[1-432]
10240	[1-207]
10241	[1-315]
10242	[1-312]
10243	[1-378]
10244	[1-341]
10245	[62-247]
10246	[1-331]
10247	[1-318]
10248	[1-248]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
10249	[1-460]	10306	[1-249]
10250	[1-136]	10307	[1-344]
10252	[1-400]	10308	[1-468]
10254	[1-147]	10309	[1-486]
10255	[1-55]	10310	[187-391]
10256	[1-397]	10311	[1-72]
10257	[1-425]	10312	[1-70]
10258	[1-319]	10313	[1-426]
10259	[1-423]	10314	[1-444]
10260	[1-381]	10315	[1-348]
10261	[1-433]	10317	[1-440]
10262	[1-336]	10318	[1-433]
10264	[1-170]	10319	[1-283]
10265	[279-373]	10320	[1-505]
10266	[1-498]	10321	[1-157]
10267	[1-532]	10322	[1-436]
10268	[1-563]	10323	[1-445]
10269	[1-266]	10324	[1-450]
10272	[1-452]	10325	[1-231]
10273	[1-352]	10327	[1-362]
10274	[1-429]	10328	[1-304]
10276	[1-441]	10329	[37-308]
10277	[1-237]	10330	[218-278]
10278	[1-252]	10331	[1-259]
10279	[1-437]	10332	[1-656]
10280	[1-52]	10333	[1-445]
10281	[1-343]	10334	[1-258],[387-589]
10282	[1-402]	10335	[86-160]
10283	[1-377]	10336	[464-498]
10284	[1-386]	10337	[1-517]
10285	[1-440]	10338	[1-493]
10286	[1-247]	10339	[1-525]
10287	[1-422]	10340	[1-293]
10288	[1-135]	10342	[1-399]
10289	[1-430]	10343	[1-523]
10290	[1-427]	10344	[1-332]
10292	[1-75]	10345	[1-370]
10294	[1-469]	10346	[1-330]
10295	[1-30],[68-457],[1103-1211]	10347	[1-75]
10296	[1-481]	10348	[1-557]
10297	[1-259]	10349	[1-428]
10299	[1-344],[444-519]	10350	[1-445]
10300	[1-310]	10351	[1-127],[164-397]
10301	[1-323]	10352	[1-451]
10303	[1-359]	10353	[1-237]
10304	[1-303]	10354	[1-485]
10305	[1-462]	10355	[1-458]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10356	[1-293]
10357	[1-44]
10358	[1-73]
10359	[1-431]
10360	[1-447]
10361	[1-360]
10362	[1-460]
10363	[1-401]
10364	[1-188]
10365	[1-496]
10367	[1-449]
10368	[1-337]
10369	[1-448]
10370	[1-116]
10371	[1-453]
10372	[1-450]
10373	[1-427]
10374	[1-323]
10375	[1-426]
10376	[1-489]
10377	[1-257]
10378	[1-444]
10379	[1-574]
10380	[1-271]
10381	[1-539]
10382	[1-232]
10383	[1-147]
10384	[1-417]
10385	[1-478]
10386	[288-376]
10387	[1-450]
10388	[1-418]
10389	[1-593]
10390	[1-113]
10391	[1-354]
10392	[1-395]
10393	[1-586]
10394	[1-483]
10397	[1-535]
10398	[1-606]
10399	[1-486]
10400	[1-416]
10401	[162-503]
10402	[1-481]
10403	[1-485]
10404	[1-293]
10405	[1-423]

Seq Id No.	Positions of preferred fragments
10407	[30-86],[250-478]
10408	[1-536]
10409	[1-213]
10410	[1-481]
10411	[1-468]
10412	[1-445]
10413	[1-505]
10414	[1-510]
10416	[1-185],[226-358]
10417	[46-547]
10418	[1-407]
10419	[1-73]
10420	[1-77]
10422	[1-535]
10423	[1-357]
10424	[1-72]
10425	[267-441]
10427	[1-99]
10428	[1-517]
10429	[1-80]
10430	[1-448]
10431	[1-317]
10432	[1-587]
10433	[1-435]
10435	[1-333]
10436	[1-469]
10437	[1-306]
10438	[63-500]
10439	[108-140],[270-486]
10440	[1-360]
10441	[1-452]
10442	[1-75]
10443	[1-466]
10444	[1-463]
10445	[1-474]
10446	[1-431]
10448	[1-505]
10449	[1-559]
10450	[189-226]
10451	[1-515]
10452	[1-533]
10454	[1-474]
10455	[1-209],[317-500]
10456	[1-418]
10457	[1-362]
10458	[1-477]
10461	[1-69]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10462	[1-573]
10463	[1-537]
10464	[1-378]
10465	[1-105]
10466	[1-63]
10467	[1-28],[68-145]
10468	[1-179],[258-282]
10469	[1-349]
10470	[1-89]
10471	[1-64]
10472	[1-558]
10473	[1-474]
10474	[1-547]
10475	[1-529]
10476	[1-515]
10477	[1-454]
10478	[1-145]
10480	[1-503]
10481	[1-450]
10483	[1-369]
10484	[1-343]
10486	[56-369]
10487	[1-439]
10489	[1-494]
10490	[1-343]
10491	[1-625]
10492	[1-555]
10493	[1-600]
10494	[1-312]
10495	[1-469]
10497	[1-406]
10498	[1-390]
10499	[169-340]
10500	[1-142]
10501	[1-467]
10502	[1-487]
10503	[1-454]
10504	[1-399]
10505	[1-433]
10506	[1-402]
10507	[1-395]
10508	[1-155]
10509	[1-338]
10510	[1-99]
10511	[1-577]
10512	[181-386]
10513	[1-151]

Seq Id No.	Positions of preferred fragments
10514	[1-142]
10515	[1-164]
10516	[1-524]
10517	[1-400]
10518	[1-387]
10519	[1-408]
10520	[1-433]
10521	[1-369]
10522	[1-441]
10523	[1-74],[284-534]
10525	[1-473]
10526	[114-140]
10527	[1-51],[271-514]
10528	[1-209]
10529	[1-55]
10530	[266-401]
10531	[1-74],[274-300]
10532	[1-416]
10533	[1-481]
10537	[1-428]
10538	[1-405]
10539	[1-442]
10540	[1-75]
10542	[1-493]
10543	[1-193]
10545	[1-506]
10546	[1-504]
10547	[1-154]
10548	[1-501]
10549	[1-127]
10550	[1-439]
10551	[1-409]
10552	[1-72]
10554	[1-74],[126-409]
10555	[1-306]
10556	[1-491]
10557	[1-437]
10558	[1-337]
10559	[1-233]
10560	[1-319]
10561	[1-142]
10563	[1-249]
10564	[1-349]
10565	[1-443]
10566	[1-419]
10567	[1-328]
10568	[1-106]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10569	[1-575]
10570	[1-523]
10571	[216-559]
10572	[1-354]
10573	[106-296]
10574	[1-271]
10576	[1-353]
10577	[1-314]
10578	[1-119]
10579	[1-351]
10580	[1-80]
10581	[1-361]
10582	[1-39]
10583	[1-535]
10584	[1-57]
10585	[1-511]
10586	[1-116]
10587	[1-312]
10588	[1-591]
10589	[1-128],[160-503]
10590	[1-572]
10592	[1-127]
10593	[1-370]
10594	[1-607]
10595	[1-447]
10597	[1-445]
10598	[1-50]
10599	[1-359]
10601	[1-443]
10602	[177-414]
10603	[1-494]
10604	[1-480]
10605	[1-407]
10606	[50-235]
10607	[89-303]
10608	[219-250]
10609	[1-87]
10612	[423-447]
10613	[1-338]
10614	[1-437]
10615	[1-480]
10616	[1-503]
10617	[86-556]
10618	[1-563]
10619	[1-454]
10621	[378-470]
10622	[1-438]

Seq Id No.	Positions of preferred fragments
10623	[368-451]
10624	[1-529]
10625	[1-512]
10626	[1-562]
10627	[287-337]
10628	[1-501]
10630	[1-281]
10631	[1-400]
10632	[1-511]
10633	[1-374]
10634	[1-487]
10635	[1-514]
10636	[1-551]
10638	[1-451]
10639	[1-552]
10641	[1-169]
10642	[1-155]
10643	[1-440]
10644	[1-129]
10645	[1-541]
10646	[1-557]
10647	[1-557]
10648	[1-484]
10649	[1-553]
10650	[1-538]
10651	[1-497]
10652	[1-445]
10653	[1-309]
10654	[1-426]
10655	[1-234],[412-527]
10656	[1-149]
10657	[1-525]
10658	[1-470]
10659	[1-520]
10660	[1-403]
10661	[1-428]
10662	[1-367]
10663	[1-213],[360-468],[529-562]
10664	[1-583]
10665	[1-265]
10666	[1-480]
10668	[1-260]
10669	[1-493]
10670	[1-345]
10671	[1-196]
10672	[1-447]
10673	[1-429]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
10674	[1-531]	10724	[1-383]
10675	[1-233]	10725	[1-414]
10676	[1-410]	10726	[1-485]
10677	[1-205],[238-271],[373-497]	10727	[1-270]
10678	[1-402]	10728	[1-492]
10679	[1-351]	10729	[1-496]
10680	[1-298]	10730	[1-483]
10681	[1-413]	10731	[1-269]
10682	[1-410]	10732	[1-168]
10683	[1-487]	10733	[1-266]
10684	[1-546]	10734	[1-472]
10685	[1-501]	10735	[1-88]
10686	[261-293]	10736	[1-264]
10687	[1-477]	10737	[1-206]
10688	[1-447]	10738	[1-454]
10690	[1-67]	10739	[1-485]
10691	[1-429]	10741	[1-415]
10692	[1-356]	10742	[1-514]
10693	[1-361]	10744	[1-481]
10695	[1-270]	10745	[1-468]
10696	[1-521]	10747	[1-296]
10697	[1-344]	10748	[1-277]
10698	[1-379]	10749	[1-475]
10699	[1-419]	10750	[1-150]
10700	[1-208],[293-470]	10751	[1-375]
10701	[1-288]	10752	[1-239]
10702	[1-299]	10753	[1-360]
10703	[1-470]	10754	[1-455]
10705	[1-540]	10755	[1-258]
10706	[1-420]	10757	[1-271]
10707	[1-233],[265-304]	10759	[1-455]
10708	[1-499]	10761	[1-364]
10709	[1-418]	10762	[1-81],[211-476]
10710	[1-194]	10763	[1-70],[135-284]
10711	[1-474]	10764	[1-71]
10712	[1-486]	10765	[1-481]
10713	[1-58]	10766	[1-162]
10714	[1-468]	10767	[1-506]
10715	[1-59]	10768	[1-421]
10716	[1-433]	10769	[1-329]
10717	[1-396]	10770	[1-354]
10718	[1-443]	10771	[1-127]
10719	[1-65]	10772	[46-263]
10720	[1-421]	10773	[1-320]
10721	[1-500]	10774	[1-203]
10722	[1-55],[99-149]	10776	[1-375]
10723	[1-54]	10777	[1-105],[246-372]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
10778	[1-379]	10836	[47-348]
10779	[1-268]	10837	[1-51]
10780	[1-412]	10838	[1-55]
10781	[1-462]	10839	[1-348]
10782	[1-431]	10840	[1-233]
10783	[1-232]	10841	[1-446]
10785	[1-154]	10842	[1-101]
10786	[1-434]	10843	[1-282]
10787	[1-152]	10845	[1-471]
10788	[1-343]	10846	[1-134]
10789	[1-247]	10847	[1-166]
10790	[1-441]	10848	[1-326]
10791	[1-93],[188-223]	10850	[1-390]
10792	[1-441]	10851	[1-243]
10793	[1-304]	10852	[1-483]
10794	[1-172]	10853	[1-435]
10795	[1-254]	10854	[1-93]
10797	[1-80]	10856	[1-487]
10798	[191-417]	10857	[1-349]
10799	[1-268]	10858	[1-470]
10800	[1-447]	10859	[1-433]
10801	[86-142]	10860	[1-450]
10802	[1-245]	10861	[1-333]
10803	[1-124]	10862	[1-76],[110-350]
10804	[1-361]	10863	[1-184]
10805	[1-170]	10864	[1-450]
10806	[1-247]	10865	[1-438]
10807	[1-343]	10866	[1-256]
10811	[1-188]	10868	[1-372]
10812	[1-447]	10869	[1-358]
10813	[1-52]	10870	[1-389]
10814	[1-237]	10871	[1-53]
10815	[1-232]	10872	[1-296]
10816	[1-263]	10873	[1-378]
10818	[1-463]	10874	[1-294]
10819	[54-436]	10875	[1-157]
10821	[1-355]	10876	[1-484]
10822	[1-88]	10877	[1-77]
10823	[1-398]	10878	[1-438]
10824	[1-504]	10879	[1-288]
10825	[1-45],[269-364]	10880	[1-58]
10826	[1-58]	10881	[1-300]
10827	[1-440]	10882	[1-238]
10828	[1-331]	10883	[1-340]
10829	[1-80]	10884	[1-358]
10832	[1-69]	10885	[1-171]
10835	[1-418]	10886	[1-429]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
10887	[1-476]
10888	[1-301]
10889	[1-407]
10890	[1-234],[274-497]
10891	[1-53]
10892	[1-360]
10893	[1-436]
10896	[1-67]
10898	[1-156]
10900	[1-159]
10902	[1-479]
10903	[1-476]
10904	[1-373]
10905	[1-369]
10906	[1-103]
10907	[1-68]
10908	[1-349]
10909	[1-138]
10911	[1-184]
10912	[1-197]
10914	[197-229]
10915	[1-251]
10916	[1-59]
10917	[60-254]
10918	[1-469]
10919	[1-353]
10921	[1-247]
10922	[1-80]
10924	[1-226]
10925	[1-155],[184-243]
10926	[1-345]
10927	[1-512]
10928	[1-463]
10929	[1-131]
10930	[1-241]
10931	[1-242]
10933	[1-386]
10934	[1-464]
10935	[1-412]
10936	[1-531]
10937	[1-304]
10938	[1-331]
10939	[1-458]
10940	[1-136]
10941	[1-185]
10942	[1-220]
10943	[1-366]

Seq Id No.	Positions of preferred fragments
10944	[1-359]
10947	[1-344]
10948	[1-391]
10950	[1-369]
10951	[1-364]
10952	[1-364]
10953	[1-239]
10954	[1-481]
10955	[1-209]
10956	[1-67]
10957	[1-235],[372-428]
10958	[1-114],[311-453]
10959	[1-346]
10960	[1-506]
10961	[1-146]
10962	[1-150]
10963	[1-597]
10964	[1-507]
10965	[1-438]
10966	[1-356]
10967	[1-165],[367-591]
10968	[1-485]
10969	[1-221]
10970	[1-397]
10971	[1-72]
10973	[1-366]
10975	[1-430]
10976	[1-520]
10977	[1-374]
10978	[1-149],[230-272],[361-478]
10980	[1-55]
10982	[1-459]
10983	[1-209]
10984	[1-250]
10985	[1-424]
10986	[1-41],[81-188],[234-438]
10987	[1-443]
10988	[1-341]
10989	[1-274]
10990	[1-328]
10991	[1-442]
10993	[1-178]
10994	[1-309]
10995	[1-412]
10997	[1-246]
10998	[1-487]
10999	[1-167]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11000	[1-233],[265-292]
11001	[1-73]
11002	[1-293]
11004	[64-544]
11005	[1-223]
11006	[1-552]
11007	[1-53]
11008	[1-491]
11009	[1-155]
11010	[1-452]
11011	[1-469]
11012	[1-498]
11014	[1-460]
11015	[71-251],[353-468]
11016	[94-419]
11017	[1-403]
11018	[1-365]
11019	[1-458]
11021	[1-499]
11022	[1-80]
11023	[1-452]
11024	[1-418]
11025	[1-497]
11026	[1-470]
11027	[1-482]
11028	[1-498]
11029	[1-479]
11030	[52-236]
11031	[1-470]
11032	[1-416]
11033	[1-414]
11034	[1-484]
11035	[1-489]
11036	[1-470]
11037	[1-76]
11038	[1-52],[81-127],[159-469]
11039	[1-487]
11040	[1-475]
11041	[1-482]
11042	[1-391]
11043	[1-424]
11045	[1-306]
11046	[1-443]
11047	[1-491]
11048	[1-252]
11049	[1-414]
11051	[1-89]

Seq Id No.	Positions of preferred fragments
11052	[1-436]
11053	[1-466]
11054	[1-483]
11055	[1-442]
11056	[1-347]
11057	[1-355],[406-442]
11058	[1-432]
11059	[1-306]
11060	[1-478]
11062	[1-295],[390-500]
11063	[1-85]
11065	[1-468]
11066	[1-484]
11067	[1-30],[68-457]
11068	[1-483]
11069	[1-283]
11070	[1-488]
11071	[1-95],[129-253]
11072	[53-235]
11073	[1-499]
11074	[1-401]
11075	[1-444]
11076	[114-448]
11077	[1-209]
11078	[247-273]
11079	[1-331]
11080	[50-235]
11081	[1-488]
11082	[1-258]
11083	[1-468]
11084	[1-339]
11085	[1-488]
11086	[1-478]
11087	[86-135]
11088	[1-438]
11091	[1-62]
11092	[1-336]
11093	[1-454]
11094	[72-125]
11095	[1-67]
11096	[1-489]
11097	[1-387]
11098	[1-132]
11100	[1-485]
11102	[1-517]
11103	[1-304]
11104	[1-457]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11105	[1-476]
11106	[72-108]
11107	[1-446]
11108	[1-279],[318-397]
11109	[1-379]
11110	[1-488]
11111	[1-414]
11113	[1-432]
11114	[1-471]
11115	[1-452]
11117	[1-376]
11118	[1-434]
11119	[1-457]
11120	[1-421]
11122	[1-168]
11123	[1-469]
11124	[1-338]
11125	[1-446]
11126	[1-398]
11127	[1-478]
11128	[1-409]
11129	[1-397]
11130	[1-474]
11131	[1-460]
11132	[1-214]
11133	[1-509]
11134	[37-312]
11135	[1-246]
11136	[1-495]
11137	[1-53]
11138	[1-468]
11139	[1-415]
11140	[1-102]
11141	[86-121]
11142	[1-437]
11143	[1-439]
11144	[1-540]
11146	[1-481]
11147	[1-273]
11148	[1-240]
11149	[1-362]
11150	[1-491]
11151	[1-438]
11152	[1-98]
11153	[1-503]
11154	[1-479]
11155	[1-493]
11156	[1-476]
11158	[1-566]
11159	[1-293]
11160	[1-505]
11161	[1-176]
11162	[1-394]
11163	[1-126]
11164	[1-460]
11165	[1-478]
11166	[1-80]
11167	[1-311]
11168	[1-488]
11169	[1-507]
11170	[1-495]
11171	[225-309]
11172	[1-529]
11173	[1-482]
11174	[1-127]
11175	[1-209]
11176	[1-282]
11177	[1-437]
11178	[1-122]
11179	[1-522]
11180	[1-137]
11181	[1-386]
11182	[1-473]
11183	[1-278]
11184	[1-478]
11185	[1-518]
11187	[1-502]
11188	[1-408]
11189	[1-488]
11190	[1-60],[242-413]
11191	[1-428]
11192	[1-80]
11193	[1-130]
11194	[1-83]
11195	[1-139]
11196	[1-470]
11197	[1-391]
11198	[1-104]
11199	[1-55]
11200	[116-175],[451-499]
11202	[1-492]
11203	[1-494]
11204	[40-68]
11205	[1-515]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11206	[1-108]
11208	[1-381]
11210	[1-96]
11211	[1-257]
11213	[1-201]
11214	[1-381]
11216	[1-251]
11217	[1-207]
11219	[1-34]
11220	[1-235]
11221	[1-321]
11223	[233-306]
11224	[1-169]
11228	[1-134]
11229	[79-425]
11231	[74-248]
11234	[1-201]
11236	[1-405]
11238	[1-362]
11239	[1-39],[300-343]
11240	[1-151]
11241	[1-358]
11242	[1-310]
11243	[1-370]
11244	[1-103]
11245	[1-186]
11246	[1-161]
11247	[1-374]
11248	[1-265],[326-418]
11249	[93-169]
11250	[1-467]
11251	[1-288]
11252	[1-250]
11253	[1-219]
11254	[1-74]
11255	[1-219]
11257	[1-72]
11258	[1-447]
11259	[1-219]
11260	[1-219]
11261	[1-219]
11262	[1-282]
11263	[1-219]
11264	[1-219]
11265	[1-73]
11266	[1-224]
11267	[1-399]
11268	[1-168]
11269	[1-219]
11270	[1-219]
11271	[1-228]
11272	[1-219]
11273	[1-219]
11274	[1-219]
11275	[1-189]
11276	[1-219]
11277	[1-219]
11278	[1-118]
11279	[1-469]
11280	[1-207]
11281	[1-219]
11282	[1-136]
11283	[1-206]
11284	[1-219]
11285	[1-206]
11286	[1-219]
11287	[1-111]
11288	[1-219]
11289	[1-219]
11290	[1-74]
11291	[1-136]
11292	[1-219]
11293	[1-219]
11294	[1-206]
11295	[1-136]
11296	[1-219]
11297	[1-219]
11298	[1-399]
11299	[1-206]
11300	[1-193]
11301	[1-129]
11302	[1-128]
11303	[1-72]
11304	[1-219]
11305	[1-144]
11306	[1-101]
11307	[1-136]
11308	[1-219]
11309	[1-136]
11310	[165-489]
11311	[1-219]
11312	[1-61]
11313	[1-419]
11314	[1-207]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11315	[1-207]
11316	[1-111]
11317	[1-206]
11318	[1-144]
11319	[1-110]
11320	[1-219]
11321	[1-450]
11322	[1-219]
11323	[1-60]
11324	[1-219]
11325	[1-72]
11326	[1-171]
11327	[1-225]
11328	[1-221]
11329	[1-219]
11330	[1-237]
11331	[1-153]
11332	[1-219]
11333	[1-219]
11334	[1-207]
11335	[1-121]
11336	[1-187]
11337	[1-220]
11338	[1-219]
11339	[1-219]
11340	[1-185]
11342	[1-198]
11343	[1-498]
11344	[214-388]
11345	[1-426]
11346	[1-430]
11347	[1-440]
11348	[1-382]
11349	[1-483]
11350	[1-298],[329-378]
11351	[1-34],[79-427]
11352	[1-342]
11353	[1-330]
11354	[1-149],[188-409]
11355	[1-471]
11356	[1-307]
11357	[1-107]
11358	[1-330]
11362	[418-523]
11363	[1-415]
11365	[1-281]
11366	[1-505]
11367	[1-306]
11369	[1-125],[332-498]
11370	[1-439]
11371	[1-341]
11372	[151-278]
11373	[1-157]
11374	[1-644]
11375	[1-610]
11376	[1-489]
11377	[1-482]
11378	[216-295]
11381	[1-361]
11382	[1-76]
11383	[1-401]
11384	[1-326]
11385	[1-233]
11386	[1-292]
11388	[1-525]
11389	[1-543]
11391	[1-302]
11392	[1-521]
11393	[1-353]
11394	[50-94]
11395	[1-212]
11396	[1-285]
11398	[1-147]
11399	[1-375]
11400	[1-234]
11401	[1-77]
11402	[1-394]
11403	[1-406]
11404	[1-350]
11406	[1-193]
11407	[1-294]
11408	[31-460]
11409	[1-401]
11410	[1-428]
11411	[1-203]
11412	[1-326]
11413	[1-99]
11414	[1-57]
11415	[1-428]
11416	[1-307]
11417	[31-466]
11418	[1-316]
11419	[1-306]
11420	[1-136]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11421	[1-249]
11423	[1-430]
11424	[1-480]
11425	[1-457]
11426	[1-309]
11427	[1-309]
11428	[1-198]
11429	[1-198]
11430	[1-230]
11431	[1-180]
11432	[1-393]
11433	[1-378]
11434	[1-291]
11436	[1-102]
11437	[1-436]
11438	[1-261]
11439	[1-504]
11440	[1-506]
11441	[243-452]
11442	[119-187]
11444	[1-396]
11445	[1-261]
11446	[1-137]
11447	[256-367]
11448	[1-346]
11449	[1-486]
11451	[1-352]
11452	[1-241]
11453	[1-400]
11454	[1-495]
11456	[1-286]
11457	[1-374]
11458	[1-366]
11459	[1-365]
11460	[1-388]
11463	[1-384]
11464	[1-339]
11465	[1-349]
11468	[1-398]
11469	[1-453]
11470	[1-169]
11471	[1-446]
11472	[1-396]
11473	[1-311]
11474	[1-441]
11475	[1-367]
11476	[1-348]
11478	[1-149]
11479	[1-418]
11480	[1-415]
11482	[1-442]
11483	[1-385]
11484	[1-476]
11485	[1-426]
11486	[1-118]
11487	[1-351]
11488	[1-443]
11490	[1-370]
11491	[1-349]
11492	[1-422]
11493	[1-132]
11494	[1-106]
11495	[1-392]
11496	[270-366]
11497	[1-79]
11498	[1-553]
11499	[1-504]
11500	[1-55],[228-577]
11501	[1-161]
11502	[1-515]
11503	[120-154]
11504	[1-176]
11505	[183-238]
11507	[1-177]
11508	[1-178]
11510	[1-191]
11511	[1-318]
11512	[1-345]
11513	[1-317]
11515	[149-232]
11516	[1-316]
11517	[1-314]
11518	[1-92]
11519	[1-224]
11520	[1-221]
11521	[1-388]
11522	[1-140]
11523	[1-172]
11525	[1-147]
11526	[1-298]
11528	[1-300]
11529	[1-303]
11530	[1-317]
11531	[1-457]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11532	[1-402]
11533	[1-387]
11534	[1-175]
11535	[1-312]
11537	[1-37],[256-371]
11538	[1-306]
11539	[1-313]
11540	[1-77]
11541	[1-463]
11542	[1-316]
11543	[1-297]
11544	[1-383]
11545	[1-456]
11547	[1-209]
11548	[1-163]
11549	[1-268]
11550	[1-409]
11551	[1-493]
11552	[1-369]
11553	[1-220]
11554	[1-495]
11556	[1-120]
11557	[295-320]
11558	[1-530]
11559	[1-460]
11562	[1-147]
11563	[1-324]
11564	[1-280]
11565	[1-387]
11566	[1-148]
11567	[1-318]
11568	[1-305]
11569	[1-200]
11570	[1-200]
11571	[1-111]
11572	[1-93]
11573	[1-172]
11574	[1-159]
11575	[1-173]
11576	[1-408]
11577	[1-311]
11578	[1-125]
11579	[1-314]
11580	[1-162]
11581	[1-327]
11582	[1-309]
11583	[1-53]
11585	[1-281]
11586	[1-160]
11587	[1-315]
11588	[1-431]
11589	[1-320]
11590	[1-200]
11591	[1-200]
11592	[1-171]
11593	[1-162]
11594	[1-118]
11595	[217-245]
11596	[1-86]
11597	[1-347]
11598	[1-200]
11599	[1-299]
11600	[1-347]
11601	[1-114]
11602	[1-168]
11603	[1-200]
11604	[1-371]
11605	[1-280]
11606	[1-157],[224-250]
11607	[1-165]
11608	[1-353]
11609	[1-385]
11610	[1-383]
11611	[1-174]
11612	[1-295]
11613	[1-68]
11614	[1-160]
11615	[1-281]
11617	[1-225]
11619	[1-200]
11620	[1-322]
11621	[1-369]
11622	[1-166]
11623	[1-170]
11624	[1-152]
11625	[1-144]
11626	[1-225]
11627	[1-226]
11628	[1-341]
11629	[1-173]
11630	[1-316]
11631	[1-78]
11632	[1-195]
11633	[1-78]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11634	[1-221]
11635	[1-242]
11636	[1-134]
11638	[1-173]
11639	[1-127]
11640	[1-216]
11641	[1-303]
11642	[1-336]
11643	[1-112]
11644	[1-170]
11645	[1-109]
11646	[1-122]
11647	[1-294]
11648	[1-189]
11649	[1-301]
11650	[1-152]
11651	[1-55]
11652	[1-109]
11653	[1-201]
11654	[1-110]
11655	[1-333]
11656	[1-127]
11657	[1-62]
11658	[1-63]
11659	[1-361]
11660	[1-149]
11661	[1-162]
11662	[1-225]
11663	[1-99]
11665	[1-347]
11666	[1-173]
11667	[1-200]
11668	[1-163]
11669	[1-132]
11670	[1-329]
11671	[1-174]
11672	[1-305]
11673	[1-337]
11675	[1-261]
11676	[1-107]
11677	[1-114]
11678	[1-144]
11679	[1-189]
11680	[1-174]
11681	[1-200]
11682	[1-104]
11683	[1-179]
11684	[1-194]
11686	[1-129]
11687	[1-174]
11688	[1-158]
11689	[1-82]
11690	[1-378]
11691	[1-317]
11692	[1-118]
11693	[1-347]
11694	[1-278]
11695	[1-361]
11697	[1-187]
11698	[1-140]
11699	[1-130]
11701	[1-212]
11702	[1-155]
11703	[1-285]
11704	[1-365]
11705	[1-137]
11707	[1-397]
11708	[1-128]
11709	[1-114]
11710	[1-84]
11711	[1-237]
11712	[1-490]
11713	[1-173]
11714	[1-191]
11715	[1-123]
11716	[1-200]
11717	[1-439]
11718	[1-199]
11719	[1-163]
11720	[1-195]
11721	[1-231]
11722	[1-172]
11723	[1-339]
11724	[1-171]
11725	[1-343]
11726	[1-394]
11727	[1-358]
11728	[1-200]
11729	[1-278]
11730	[1-303]
11731	[1-126]
11732	[1-142]
11733	[1-181]
11734	[1-311]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11735	[1-225]
11736	[1-213]
11737	[1-179],[323-374]
11738	[1-126]
11739	[1-162]
11740	[1-80]
11741	[1-109]
11742	[1-364]
11743	[1-110]
11744	[1-98]
11745	[1-171]
11746	[1-305]
11747	[1-565]
11748	[1-187]
11749	[1-253]
11750	[1-311]
11751	[1-293]
11752	[1-302]
11754	[1-200]
11755	[1-302]
11756	[1-129]
11757	[1-462]
11758	[1-130]
11759	[1-136]
11760	[1-271]
11761	[1-136]
11762	[1-200]
11763	[1-309]
11764	[1-152]
11765	[1-196]
11766	[1-118]
11767	[1-111]
11768	[1-448]
11769	[1-283]
11770	[1-340]
11771	[1-173]
11772	[1-200]
11773	[1-200]
11774	[1-257]
11775	[1-174]
11776	[1-296]
11777	[1-170]
11778	[1-200]
11779	[1-207]
11781	[1-110]
11782	[1-226]
11783	[1-126]
11784	[1-222]
11785	[1-200]
11786	[1-162]
11787	[1-254]
11788	[1-172]
11789	[1-186]
11790	[1-479]
11791	[1-316]
11792	[1-133]
11793	[1-358]
11794	[1-226]
11795	[1-192]
11796	[1-186]
11797	[1-90]
11798	[1-298]
11799	[1-106]
11800	[1-118]
11801	[1-224]
11802	[1-197]
11803	[1-213]
11804	[1-226]
11805	[1-340]
11806	[1-345]
11807	[1-243]
11808	[1-171]
11809	[1-207]
11810	[1-126]
11811	[1-235]
11812	[1-121]
11813	[1-172]
11814	[1-331]
11815	[1-117]
11816	[1-213]
11817	[1-79]
11818	[1-187]
11819	[1-53]
11820	[1-241]
11821	[1-122]
11822	[1-139]
11823	[1-173]
11824	[1-201]
11825	[1-200]
11826	[1-490]
11827	[1-305]
11828	[1-371]
11829	[1-336]
11830	[1-225]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11831	[1-306]
11832	[1-142]
11833	[1-492]
11834	[1-225]
11835	[1-200]
11836	[1-377]
11837	[1-303]
11838	[1-156]
11839	[1-181]
11840	[1-213]
11841	[1-82]
11842	[1-120]
11843	[1-507]
11844	[1-200]
11845	[1-158]
11846	[1-200]
11847	[1-190]
11848	[1-166]
11849	[1-364]
11850	[1-213]
11851	[1-246]
11852	[1-314]
11853	[1-200]
11854	[1-373]
11855	[1-345]
11856	[1-187]
11857	[1-148]
11858	[1-200]
11859	[1-128]
11860	[1-174]
11861	[1-99]
11862	[1-344]
11863	[1-164]
11864	[1-82]
11865	[1-200]
11866	[1-141]
11867	[1-304]
11868	[1-96]
11869	[1-170]
11870	[1-158]
11871	[1-336]
11872	[1-57]
11873	[1-366]
11876	[1-59]
11877	[1-279]
11878	[1-174]
11879	[1-318]
11880	[1-360]
11881	[1-306]
11882	[1-188]
11883	[1-121]
11884	[1-547]
11885	[1-117]
11886	[1-209]
11887	[1-69]
11888	[1-82]
11889	[1-290]
11890	[1-281]
11891	[1-111]
11895	[1-483]
11896	[1-314]
11897	[1-163]
11898	[1-143]
11899	[1-471]
11900	[1-118]
11901	[1-314]
11902	[1-200]
11904	[1-207]
11905	[1-200]
11906	[1-322]
11907	[1-317]
11908	[1-296]
11909	[1-67]
11910	[1-174]
11911	[1-253]
11912	[1-68]
11914	[1-306]
11915	[1-173]
11916	[1-419]
11917	[1-298]
11918	[1-353]
11919	[1-200]
11920	[1-162]
11921	[1-123]
11922	[1-209]
11923	[1-155]
11924	[1-172]
11925	[1-172]
11926	[1-171]
11927	[146-509]
11928	[1-100]
11929	[1-307]
11930	[1-298]
11931	[1-201]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
11932	[1-316]
11933	[1-225]
11934	[1-125]
11935	[1-314]
11936	[1-225]
11937	[1-226]
11938	[1-201]
11939	[1-303]
11940	[1-198]
11941	[1-343]
11942	[1-143]
11943	[1-292]
11944	[1-82]
11945	[1-173]
11946	[1-200]
11947	[1-343]
11948	[1-113]
11949	[1-82]
11950	[1-137]
11951	[1-301]
11952	[1-136]
11953	[1-108]
11954	[1-165]
11955	[1-119]
11956	[1-479]
11957	[1-152]
11958	[1-78]
11959	[1-273]
11960	[1-200]
11961	[1-235]
11962	[1-118]
11963	[1-173]
11964	[1-108]
11965	[1-200]
11966	[1-174]
11967	[1-61]
11968	[1-312]
11969	[1-314]
11970	[1-57]
11971	[1-312]
11972	[1-110]
11973	[1-316]
11974	[1-78]
11975	[1-89]
11976	[1-314]
11977	[1-437]
11978	[1-106]
11979	[1-201]
11980	[1-132]
11981	[124-350]
11982	[1-311]
11983	[1-371]
11984	[1-331]
11985	[1-200]
11986	[1-173]
11987	[1-110]
11988	[1-112]
11989	[1-92],[273-311]
11990	[1-108]
11991	[1-79]
11992	[1-358]
11993	[1-118]
11994	[1-265]
11996	[1-163]
11997	[1-121]
11998	[1-330]
11999	[1-291]
12000	[1-226]
12001	[1-99]
12002	[1-200]
12003	[1-250]
12004	[1-314]
12005	[1-68]
12006	[1-69]
12007	[1-103]
12008	[1-303]
12009	[1-321]
12010	[1-173]
12011	[1-170]
12012	[1-200]
12013	[1-181]
12014	[1-200]
12015	[1-82]
12016	[1-433]
12017	[1-306]
12018	[1-326]
12019	[1-180]
12020	[1-516]
12021	[1-293]
12022	[1-161]
12023	[1-200]
12024	[1-316]
12025	[1-110]
12026	[1-326]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12027	[1-142]
12028	[1-126]
12029	[1-219]
12030	[1-294]
12031	[1-355]
12032	[1-335]
12033	[1-315]
12035	[1-187]
12036	[1-189]
12037	[1-77]
12038	[1-144]
12040	[1-220]
12041	[1-294]
12042	[1-125]
12043	[1-129]
12044	[1-200]
12045	[1-120]
12046	[1-344]
12047	[1-173]
12048	[1-78]
12049	[1-154]
12051	[1-163]
12052	[1-166]
12053	[1-145]
12054	[1-263]
12055	[1-313]
12056	[1-221]
12057	[1-194]
12058	[1-175]
12059	[1-333]
12060	[1-199]
12062	[1-419]
12063	[1-447]
12064	[1-306]
12065	[1-200]
12066	[1-117]
12067	[1-383]
12068	[1-173]
12069	[1-114]
12070	[1-161]
12071	[1-452]
12072	[1-301]
12073	[1-174]
12074	[1-164]
12075	[1-163]
12076	[1-170]
12077	[1-240]
12078	[1-225]
12079	[1-106]
12080	[1-111]
12081	[1-317]
12082	[1-490]
12083	[1-115]
12084	[1-327]
12085	[1-221]
12087	[1-83]
12088	[1-82]
12089	[1-372]
12090	[1-243]
12091	[202-488]
12092	[1-124]
12093	[1-195]
12094	[1-143]
12095	[1-200]
12096	[1-368]
12097	[1-325]
12098	[1-170]
12099	[1-84]
12101	[1-379]
12102	[1-66]
12103	[1-82]
12104	[1-200]
12105	[1-331]
12106	[1-74]
12107	[1-173]
12108	[1-53]
12109	[1-201]
12110	[1-251]
12111	[1-115]
12112	[1-478]
12113	[1-304]
12114	[1-244]
12115	[1-301]
12116	[1-112]
12117	[1-200]
12118	[1-109]
12119	[1-108]
12121	[1-159]
12122	[1-324]
12124	[1-324]
12125	[1-153]
12126	[1-337]
12127	[1-82]
12128	[1-200]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12129	[1-164]
12130	[1-77]
12131	[1-82]
12132	[1-200]
12133	[1-113]
12135	[1-52]
12136	[1-200]
12137	[1-82]
12138	[1-321]
12139	[1-56]
12140	[1-104]
12141	[1-200]
12142	[1-420]
12143	[1-136]
12144	[1-108]
12145	[1-458]
12146	[1-459]
12147	[1-373]
12148	[1-171]
12149	[1-289]
12150	[1-57]
12151	[1-173]
12152	[1-207]
12153	[1-284]
12154	[1-225]
12155	[1-162]
12156	[1-200]
12157	[1-156]
12158	[1-200]
12159	[1-307]
12160	[1-98]
12161	[1-91]
12162	[1-120]
12163	[1-257]
12165	[1-50]
12166	[1-477]
12167	[1-118]
12168	[1-383]
12169	[1-312]
12170	[1-371]
12171	[1-172]
12172	[1-175]
12173	[1-125]
12174	[1-127]
12175	[1-83]
12176	[1-371]
12177	[1-520]

Seq Id No.	Positions of preferred fragments
12178	[1-323]
12179	[1-163]
12180	[1-58]
12181	[1-159]
12182	[1-160]
12183	[1-317]
12184	[1-336]
12185	[1-111]
12186	[1-304]
12187	[1-157]
12188	[1-304]
12189	[1-161]
12190	[1-301]
12191	[1-383]
12192	[1-372]
12193	[34-211]
12194	[1-114]
12195	[1-83]
12196	[1-129]
12198	[1-81]
12199	[1-173]
12200	[1-363]
12201	[1-200]
12202	[1-294]
12203	[1-360]
12204	[1-118]
12205	[1-172]
12206	[1-236]
12207	[1-311]
12208	[1-68]
12209	[1-439]
12210	[1-163]
12211	[1-209]
12212	[1-155]
12213	[1-243]
12214	[1-128]
12215	[1-508]
12216	[1-94]
12217	[1-163]
12218	[1-440]
12219	[1-192]
12220	[1-225]
12221	[1-162]
12222	[1-443]
12223	[1-226]
12224	[1-200]
12225	[1-78]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
12226	[1-127]	12275	[1-367]
12227	[1-361]	12276	[1-78]
12228	[1-134]	12279	[1-202]
12229	[1-176]	12280	[1-341]
12231	[1-63]	12281	[1-174]
12232	[1-457]	12282	[1-225]
12233	[1-172]	12283	[1-372]
12234	[1-343]	12284	[1-370]
12235	[1-174]	12285	[1-165]
12236	[1-313]	12286	[1-200]
12237	[1-383]	12287	[107-134],[250-488]
12238	[1-380]	12288	[1-310]
12239	[1-485]	12289	[1-209]
12240	[1-176]	12290	[1-351]
12241	[1-372]	12291	[1-124]
12242	[1-171]	12292	[1-215]
12243	[1-163]	12293	[1-485]
12244	[1-485]	12294	[1-174]
12245	[1-155]	12295	[1-300]
12246	[1-211]	12296	[1-339]
12247	[1-353]	12297	[1-243]
12248	[1-314]	12298	[1-67]
12249	[1-225]	12299	[1-78]
12250	[1-173]	12300	[1-170]
12251	[1-104]	12301	[1-200]
12252	[1-247]	12302	[1-174]
12253	[1-173]	12303	[1-309]
12254	[1-162]	12304	[1-74]
12255	[1-327]	12305	[1-246]
12256	[1-190]	12306	[248-304]
12257	[1-200]	12308	[1-162]
12258	[1-200]	12309	[1-92]
12259	[1-225]	12310	[1-296]
12260	[1-170]	12311	[1-149]
12261	[1-93]	12312	[1-401]
12262	[1-116]	12313	[1-235]
12263	[1-112]	12314	[1-40],[283-444]
12264	[1-159]	12315	[1-135]
12266	[1-77]	12316	[1-372]
12267	[1-438]	12317	[1-400]
12268	[1-365]	12318	[1-475]
12269	[1-302]	12319	[1-337]
12270	[1-175]	12320	[1-225]
12271	[1-124]	12322	[1-82]
12272	[1-175]	12323	[1-200]
12273	[1-99]	12324	[1-310]
12274	[1-187]	12325	[1-117]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
12326	[1-289]	12373	[1-313]
12327	[1-128]	12374	[1-130]
12328	[1-141]	12375	[1-449]
12329	[1-314]	12376	[1-375]
12330	[1-123]	12377	[1-55]
12331	[1-174]	12378	[1-134]
12332	[1-53]	12379	[1-137]
12333	[1-302]	12380	[1-305]
12334	[1-163]	12381	[1-200]
12335	[1-162]	12382	[1-162]
12336	[1-173]	12383	[1-175]
12337	[1-142]	12384	[1-243]
12338	[1-155]	12385	[1-343]
12339	[1-366]	12386	[1-433]
12340	[1-314]	12387	[1-354]
12341	[1-80]	12388	[1-162]
12342	[1-360]	12389	[1-111]
12343	[1-225]	12390	[1-72]
12344	[1-187]	12391	[1-170]
12345	[1-173]	12392	[1-101]
12346	[1-147]	12393	[1-302]
12347	[1-354]	12394	[1-253]
12348	[1-108]	12395	[1-123]
12349	[1-225]	12396	[1-200]
12350	[1-224]	12397	[1-111]
12351	[1-307]	12398	[1-78]
12352	[1-144]	12399	[1-369]
12353	[1-200]	12400	[1-153]
12354	[1-132]	12401	[1-148]
12355	[1-318]	12402	[1-174]
12356	[1-169],[254-373]	12403	[1-108]
12357	[1-200]	12404	[1-66]
12358	[1-173]	12405	[1-311]
12359	[1-173]	12406	[1-156]
12360	[1-200]	12407	[1-158]
12361	[1-296]	12408	[1-293]
12362	[1-213]	12409	[1-197]
12363	[1-96]	12410	[1-200]
12364	[1-143]	12411	[1-200]
12365	[1-444]	12412	[1-486]
12366	[1-371]	12413	[1-277]
12367	[1-89]	12414	[1-163]
12368	[1-82]	12415	[1-173]
12369	[1-108]	12416	[1-162]
12370	[1-173]	12417	[1-109]
12371	[1-105]	12418	[1-312]
12372	[1-202]	12419	[1-173]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12420	[1-355]
12421	[1-163]
12422	[1-140]
12423	[1-327]
12424	[1-173]
12425	[1-306]
12426	[1-225]
12427	[1-129]
12428	[1-314]
12429	[1-83]
12430	[1-97]
12431	[1-158]
12432	[1-125]
12433	[1-367]
12434	[1-82]
12435	[1-346]
12436	[1-70]
12437	[1-507]
12438	[1-158]
12439	[1-294]
12440	[1-70]
12441	[1-94]
12442	[1-374]
12443	[1-280]
12444	[1-143]
12445	[1-187]
12446	[1-76]
12447	[1-331]
12448	[1-107]
12449	[1-173]
12450	[1-83]
12451	[1-200]
12453	[1-154]
12454	[1-69]
12455	[1-99]
12456	[1-408]
12457	[1-455]
12459	[1-369]
12460	[1-432]
12461	[1-422]
12462	[1-325]
12463	[52-236]
12464	[1-70]
12465	[81-138],[226-287]
12466	[1-418]
12468	[1-325]
12469	[1-414]

Seq Id No.	Positions of preferred fragments
12470	[1-485]
12471	[1-94]
12472	[1-485]
12473	[1-450]
12474	[1-217]
12476	[1-478]
12477	[1-473]
12478	[1-460]
12479	[1-437]
12480	[1-60]
12481	[1-459]
12482	[1-438]
12483	[1-486]
12485	[1-483]
12486	[1-385]
12487	[1-196]
12489	[1-380]
12490	[1-86]
12491	[1-393]
12492	[1-469]
12493	[1-436]
12494	[1-153],[252-458]
12495	[1-230]
12496	[1-494]
12497	[1-468]
12498	[1-454]
12499	[1-146]
12500	[1-127]
12501	[1-129]
12502	[1-510]
12503	[1-276]
12505	[1-462]
12506	[1-134]
12507	[1-419]
12508	[1-455]
12509	[1-445]
12510	[1-458]
12511	[1-238]
12512	[1-442]
12514	[1-177]
12515	[1-406]
12516	[1-75]
12518	[86-118]
12521	[1-527]
12522	[1-531]
12523	[1-450]
12524	[1-47]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12525	[1-448]
12526	[1-415]
12527	[1-312]
12528	[1-472]
12529	[1-483]
12530	[1-53]
12531	[1-302]
12532	[1-465]
12533	[1-445]
12534	[1-106]
12535	[1-440]
12536	[1-193]
12537	[1-347]
12538	[1-421]
12539	[1-27]
12540	[1-477]
12541	[1-473]
12542	[1-133],[165-266]
12543	[1-315]
12544	[1-476]
12546	[1-488]
12548	[72-104]
12549	[1-194]
12550	[1-414]
12551	[1-163]
12552	[1-450]
12554	[1-307]
12555	[1-468]
12556	[1-425]
12557	[1-395]
12558	[266-493]
12559	[1-471]
12561	[1-479]
12562	[1-428]
12564	[1-458]
12565	[1-335]
12566	[1-77]
12567	[1-422]
12568	[1-373]
12569	[1-392]
12571	[121-314]
12572	[1-477]
12573	[1-134]
12574	[1-428]
12575	[1-70]
12577	[1-318]
12578	[1-59]

Seq Id No.	Positions of preferred fragments
12579	[1-432]
12580	[1-444]
12581	[1-409]
12583	[1-467]
12584	[1-423]
12585	[1-423]
12586	[1-328]
12587	[1-393]
12588	[1-95]
12589	[1-76]
12590	[1-440]
12591	[1-222]
12592	[1-156]
12593	[1-473]
12594	[1-412]
12595	[1-33],[72-398]
12596	[46-102]
12597	[1-370]
12598	[1-461]
12599	[1-54]
12600	[1-169]
12601	[1-243]
12602	[1-397]
12603	[1-478]
12604	[1-321],[353-436]
12605	[1-377]
12606	[1-458]
12608	[1-64]
12610	[1-138],[181-521]
12612	[1-200]
12613	[1-409]
12614	[1-376]
12615	[1-397]
12616	[1-506]
12617	[1-458]
12618	[1-427],[496-544]
12619	[1-463]
12620	[1-325]
12621	[1-70]
12622	[1-97]
12623	[1-274]
12624	[1-466]
12625	[142-438]
12626	[1-147]
12627	[1-272]
12628	[1-412]
12629	[1-409]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12630	[1-456]
12631	[1-297]
12632	[1-263]
12633	[1-421]
12634	[1-146]
12635	[1-553]
12636	[1-279],[310-426]
12638	[1-449]
12642	[1-291]
12643	[1-488]
12644	[1-344]
12645	[1-316]
12646	[1-139]
12647	[1-122]
12648	[1-331]
12649	[1-424]
12650	[1-395]
12651	[1-344]
12652	[1-60]
12653	[1-347]
12654	[1-324]
12655	[1-422]
12656	[1-152]
12657	[1-54]
12659	[1-321]
12660	[1-240]
12661	[1-292]
12662	[1-177]
12663	[1-87]
12664	[1-424]
12665	[1-275]
12667	[1-380]
12669	[1-490]
12670	[1-526]
12671	[1-120]
12672	[1-459]
12673	[1-505]
12674	[1-292]
12675	[1-444]
12676	[1-298]
12677	[1-429]
12679	[1-297]
12680	[1-318]
12681	[1-88]
12682	[1-83]
12683	[1-460]
12685	[243-361]

Seq Id No.	Positions of preferred fragments
12688	[1-468]
12689	[1-281]
12690	[1-453]
12691	[1-460]
12692	[1-61]
12693	[1-193]
12694	[1-447]
12695	[1-315]
12696	[1-108]
12697	[1-398]
12698	[1-267]
12699	[1-318]
12700	[1-385]
12701	[1-50]
12702	[1-286]
12704	[1-219]
12705	[1-63]
12706	[1-184]
12707	[1-199]
12708	[1-173],[211-258]
12710	[1-81]
12711	[1-293]
12712	[1-372]
12713	[1-208]
12716	[1-479]
12717	[1-169]
12718	[1-328]
12719	[1-333]
12720	[1-291]
12722	[1-329]
12723	[1-400]
12725	[1-263]
12726	[1-322]
12727	[1-261]
12728	[1-138]
12729	[1-243]
12730	[1-413]
12731	[1-393]
12733	[1-387]
12734	[1-173]
12735	[147-416]
12737	[1-494]
12738	[1-56]
12740	[1-257]
12741	[1-310]
12743	[1-155]
12744	[1-290]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
12746	[1-443]	12803	[1-248]
12749	[231-434]	12804	[1-263]
12750	[1-184]	12805	[1-140]
12753	[1-187]	12806	[1-185]
12754	[1-224]	12807	[1-442]
12755	[1-412]	12808	[1-338]
12756	[1-343]	12809	[1-28]
12757	[1-480]	12810	[1-455]
12758	[1-409]	12811	[1-97]
12760	[1-376]	12813	[1-308]
12761	[1-308]	12814	[1-226]
12762	[1-199]	12815	[1-345]
12763	[1-411]	12816	[1-500]
12764	[1-192]	12818	[1-122]
12765	[1-141]	12819	[1-67]
12767	[1-85]	12820	[1-435]
12768	[1-130]	12821	[1-472]
12769	[1-393]	12822	[1-169]
12770	[1-393]	12823	[1-530]
12771	[1-389]	12824	[1-101]
12772	[1-227]	12825	[1-154]
12773	[1-362]	12826	[64-373]
12774	[1-100]	12827	[1-58]
12775	[1-242]	12828	[1-505]
12776	[1-424]	12829	[89-116]
12777	[1-458]	12830	[1-111]
12781	[1-174]	12831	[1-398]
12782	[1-340]	12832	[1-475]
12783	[1-320]	12834	[1-429]
12784	[36-351]	12835	[1-552]
12785	[1-74]	12836	[1-358]
12786	[1-458]	12837	[1-363]
12787	[1-274]	12838	[1-421]
12788	[1-405]	12839	[1-267]
12789	[1-118]	12840	[1-454]
12790	[1-473]	12841	[1-316]
12791	[1-185]	12842	[1-434]
12792	[53-369]	12843	[1-515]
12793	[1-152]	12845	[1-327]
12794	[1-335]	12846	[1-442]
12795	[1-28]	12847	[1-222]
12796	[1-479]	12848	[1-451]
12797	[1-288]	12849	[1-441]
12798	[1-392]	12850	[1-415]
12799	[191-253]	12851	[1-497]
12800	[1-343]	12852	[1-397]
12802	[1-438]	12853	[1-476]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
12854	[1-513]
12855	[1-115]
12856	[1-97]
12857	[1-267]
12858	[1-144],[191-397]
12859	[1-313]
12860	[1-492]
12861	[1-326]
12862	[1-303]
12863	[1-536]
12864	[1-238]
12865	[1-475]
12866	[1-356]
12867	[1-208]
12868	[1-319]
12869	[1-443]
12871	[1-320]
12873	[1-359]
12874	[1-400]
12876	[1-81]
12878	[1-357]
12879	[1-235]
12880	[1-425]
12881	[1-106]
12882	[1-473]
12885	[1-101]
12886	[1-439]
12887	[1-307]
12888	[1-297]
12889	[1-68]
12891	[1-454]
12892	[1-130]
12893	[1-184]
12894	[1-289]
12895	[1-335]
12896	[1-323]
12897	[1-397]
12898	[1-440]
12899	[1-94]
12900	[1-459]
12901	[1-352]
12902	[1-318]
12903	[1-124]
12904	[1-468]
12905	[1-479]
12907	[1-357]
12908	[1-380]
12909	[1-300]
12910	[1-476]
12911	[1-431]
12912	[1-257]
12913	[1-271]
12914	[1-283]
12915	[1-259]
12916	[1-307]
12918	[1-61]
12919	[1-274]
12920	[1-80],[120-209]
12921	[1-338]
12922	[1-68]
12923	[1-184]
12924	[1-502]
12926	[1-491]
12927	[1-414]
12928	[1-259]
12929	[1-222]
12930	[1-71]
12931	[1-53]
12932	[1-281]
12933	[1-493]
12934	[1-276]
12935	[1-101]
12936	[1-350]
12938	[1-340]
12939	[1-62]
12940	[1-372]
12941	[1-330]
12942	[1-413]
12943	[1-417]
12944	[1-514]
12945	[1-309],[400-482]
12946	[1-324]
12947	[1-399]
12948	[136-281]
12950	[1-513]
12951	[1-308]
12952	[1-82]
12953	[37-315]
12954	[1-509]
12955	[1-175]
12956	[1-473]
12957	[1-452]
12958	[1-324]
12959	[1-311]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
12960	[1-372]	13011	[1-91]
12961	[1-458]	13012	[1-364]
12962	[1-494]	13013	[1-184]
12963	[1-184],[228-287]	13014	[1-309]
12964	[1-366]	13015	[1-443]
12965	[1-288]	13016	[1-242],[282-508]
12968	[1-352]	13017	[1-420]
12969	[1-313]	13018	[1-487]
12970	[1-345]	13019	[1-347]
12971	[1-486]	13020	[1-435]
12972	[1-188]	13022	[1-311]
12973	[1-254]	13023	[94-143],[182-528]
12974	[1-526]	13024	[1-304]
12975	[1-477]	13026	[1-268]
12976	[1-471]	13027	[1-484]
12977	[1-161]	13028	[254-498]
12978	[1-397]	13029	[1-386]
12979	[1-361]	13030	[1-116]
12980	[1-195],[377-404]	13031	[1-433]
12981	[1-450]	13032	[1-64]
12982	[1-309]	13033	[1-336]
12983	[1-356]	13034	[1-524]
12984	[36-351]	13035	[1-170],[201-330]
12985	[1-465]	13036	[1-315]
12986	[1-188]	13037	[1-483]
12987	[1-439]	13038	[1-462]
12988	[46-103]	13039	[1-456]
12989	[1-294]	13041	[1-442]
12990	[1-299]	13043	[1-127]
12992	[1-307]	13044	[1-306]
12993	[1-348]	13045	[1-413]
12994	[1-324]	13046	[1-309]
12995	[1-441]	13047	[1-109]
12996	[1-354]	13048	[1-152]
12997	[1-155]	13049	[1-59],[309-396]
12999	[1-419]	13050	[1-438]
13000	[1-137]	13051	[1-179]
13001	[1-325]	13052	[1-425]
13002	[71-293]	13053	[1-204]
13003	[1-119]	13054	[1-381]
13004	[1-471]	13055	[1-178]
13005	[1-291]	13056	[1-542]
13006	[1-99]	13057	[1-109],[342-448]
13007	[1-94]	13058	[1-219]
13008	[1-346]	13059	[1-192]
13009	[1-329]	13060	[1-294]
13010	[1-498]	13061	[1-430]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13062	[1-341]
13063	[1-381]
13064	[1-442]
13065	[1-295]
13066	[1-127],[276-492]
13067	[1-500]
13068	[110-353]
13069	[1-53]
13070	[1-292]
13071	[1-434]
13072	[1-361]
13074	[1-295]
13076	[1-390]
13077	[1-82]
13078	[1-506]
13079	[1-72]
13080	[1-438]
13082	[1-167]
13083	[1-400]
13084	[1-59]
13085	[1-458]
13086	[1-207]
13087	[1-461]
13088	[1-416]
13089	[1-319]
13090	[1-266]
13091	[1-311]
13092	[1-426]
13093	[1-219]
13094	[1-320]
13095	[1-97]
13096	[1-179]
13097	[1-289]
13101	[1-503]
13102	[1-272]
13103	[1-282]
13104	[1-302]
13105	[1-370]
13106	[1-69]
13107	[1-272]
13108	[1-319]
13109	[1-235]
13111	[1-325]
13112	[1-259]
13113	[1-179]
13114	[1-219]
13115	[1-499]
13116	[1-317]
13117	[1-113],[203-461]
13118	[1-295]
13119	[1-507]
13120	[1-258]
13121	[1-357]
13122	[1-125]
13123	[1-82]
13124	[1-298]
13125	[1-85]
13126	[1-185]
13127	[1-327]
13128	[1-322]
13129	[1-319]
13130	[1-473]
13132	[1-204]
13133	[1-389]
13134	[1-256]
13135	[1-444]
13136	[1-518]
13137	[1-316]
13138	[1-441]
13140	[1-280]
13141	[1-394]
13142	[1-395]
13143	[1-328]
13144	[1-81]
13146	[1-376]
13147	[1-307]
13148	[1-263]
13149	[1-131]
13150	[1-630]
13151	[1-474]
13152	[1-81]
13153	[1-457]
13154	[1-402]
13155	[1-440]
13156	[1-384]
13157	[1-297]
13158	[1-378]
13159	[1-262]
13160	[1-428]
13161	[1-326]
13162	[1-432]
13163	[1-459]
13164	[124-148],[355-438]
13165	[1-445]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13166	[1-461]
13167	[1-85]
13168	[1-495]
13169	[1-186],[306-340]
13170	[1-50]
13171	[1-113]
13172	[1-110]
13173	[1-407]
13174	[1-407]
13175	[1-470]
13176	[1-438]
13177	[1-421]
13178	[1-431]
13179	[1-493]
13180	[270-667]
13181	[1-197]
13182	[1-457]
13184	[1-325]
13186	[1-454]
13187	[1-197]
13188	[1-317]
13190	[1-346]
13191	[1-455]
13193	[42-66]
13194	[1-160]
13195	[1-372]
13197	[91-498]
13198	[1-479]
13199	[1-227]
13200	[1-420]
13201	[1-73]
13202	[1-339]
13203	[1-230]
13204	[1-53]
13206	[1-431]
13207	[1-450]
13208	[1-404]
13210	[1-171]
13212	[1-447]
13213	[1-454]
13214	[1-349]
13215	[1-59]
13217	[1-433]
13218	[1-469]
13219	[1-128]
13220	[1-164],[230-271]
13221	[1-459]
13222	[1-477]
13223	[1-56]
13224	[1-318]
13226	[1-478]
13227	[1-86]
13228	[1-139],[170-419]
13229	[1-446]
13230	[1-517]
13231	[1-444]
13232	[1-443]
13233	[1-455]
13234	[1-61]
13235	[1-446]
13236	[1-454]
13237	[1-452]
13238	[1-243]
13239	[1-433]
13240	[1-414]
13241	[1-437]
13242	[1-432]
13243	[1-89]
13245	[385-467]
13247	[1-109]
13248	[1-457]
13249	[1-313],[347-485]
13250	[1-445]
13251	[1-174]
13252	[219-469]
13253	[1-450]
13254	[1-488]
13255	[39-257]
13256	[104-479]
13257	[1-464]
13258	[1-338]
13260	[1-475]
13261	[1-289]
13264	[1-94]
13265	[1-467]
13266	[1-79]
13268	[1-30]
13269	[1-404]
13271	[1-367]
13272	[1-465]
13273	[1-199]
13274	[1-322]
13275	[1-419]
13276	[1-432]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13277	[1-466]
13278	[1-351]
13279	[1-465]
13280	[1-434]
13283	[1-341]
13284	[1-442]
13285	[1-32]
13287	[1-305]
13288	[1-455]
13289	[1-360]
13290	[1-414]
13291	[1-269]
13292	[1-313]
13293	[1-200]
13294	[94-257]
13295	[1-171]
13296	[1-269]
13297	[1-192]
13298	[1-474]
13299	[1-87]
13300	[1-75]
13302	[1-300]
13303	[1-338]
13304	[1-347]
13305	[1-250]
13306	[1-200]
13307	[1-461]
13308	[1-304]
13309	[1-140]
13310	[47-236]
13311	[1-325]
13312	[1-415]
13313	[1-370]
13315	[1-386]
13316	[1-208]
13317	[1-142]
13318	[1-314]
13319	[1-355]
13320	[1-319]
13321	[1-382]
13322	[1-375]
13323	[1-33]
13324	[1-467]
13325	[1-380]
13327	[1-298]
13329	[1-129]
13330	[1-160]
13331	[1-485]
13332	[1-111]
13333	[1-187]
13334	[1-176]
13335	[42-481]
13336	[1-500]
13337	[1-422]
13338	[47-446]
13339	[1-130]
13340	[1-348]
13341	[1-200]
13342	[1-290]
13344	[1-87]
13345	[1-376]
13346	[1-476]
13347	[1-429]
13349	[1-339]
13350	[1-300]
13351	[1-439]
13352	[1-267]
13353	[1-339]
13354	[107-156]
13355	[1-377]
13356	[1-342]
13358	[1-171]
13360	[464-513]
13362	[1-291]
13363	[1-130]
13364	[1-225]
13370	[1-25]
13371	[1-294]
13372	[1-229]
13373	[1-267]
13374	[1-279]
13378	[1-303]
13379	[1-208]
13381	[1-66],[187-416]
13386	[1-453]
13387	[1-382]
13388	[1-469]
13389	[1-83]
13390	[1-271]
13391	[1-390]
13393	[1-172]
13394	[1-461]
13395	[1-85]
13396	[1-117]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13397	[1-60],[135-469]
13400	[1-269]
13401	[1-64]
13402	[1-446]
13403	[1-421]
13404	[103-263]
13408	[1-26]
13409	[1-366]
13410	[1-438]
13411	[1-267]
13413	[227-419]
13414	[1-358]
13416	[1-68]
13417	[1-313]
13418	[155-187]
13419	[1-311]
13421	[1-457]
13422	[1-466]
13423	[1-440]
13424	[1-447]
13426	[1-99]
13427	[1-480]
13429	[1-169]
13430	[1-459]
13431	[1-304]
13432	[1-415]
13434	[1-372]
13436	[1-313]
13438	[1-464]
13439	[1-464]
13440	[1-147]
13442	[1-511]
13444	[1-120]
13445	[1-441]
13446	[1-300]
13447	[1-388]
13448	[1-54]
13449	[1-269]
13450	[1-403]
13451	[1-303]
13454	[1-441]
13455	[1-429]
13456	[1-191]
13457	[1-91]
13458	[1-81]
13459	[1-90]
13461	[1-56]

Seq Id No.	Positions of preferred fragments
13462	[1-267]
13463	[1-370]
13464	[1-91]
13465	[1-263]
13466	[1-482]
13467	[1-459]
13468	[1-132]
13469	[1-69]
13470	[238-428]
13471	[1-426]
13472	[76-461]
13473	[1-464]
13475	[1-342]
13476	[1-126],[303-362]
13478	[1-447]
13479	[1-202]
13480	[1-63]
13481	[1-495]
13482	[1-466]
13483	[77-174]
13484	[1-374]
13485	[1-478]
13486	[1-370]
13487	[1-170]
13488	[1-200]
13490	[1-200]
13491	[55-214],[249-482]
13492	[1-66]
13494	[1-313]
13495	[1-254]
13496	[1-92]
13497	[1-72]
13498	[1-50]
13499	[1-82]
13500	[1-200]
13501	[1-354]
13502	[1-329]
13503	[1-321]
13504	[1-201]
13505	[1-481]
13508	[1-330]
13509	[1-336]
13510	[1-383]
13511	[1-112]
13512	[1-293]
13513	[1-495]
13515	[1-337]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13516	[1-267]
13517	[1-207]
13518	[1-378]
13519	[1-372]
13520	[1-271]
13521	[1-144]
13522	[1-225]
13524	[1-119]
13525	[1-243]
13526	[1-82]
13527	[1-92]
13528	[1-200]
13529	[1-170]
13530	[1-337]
13532	[1-133]
13534	[1-115]
13535	[1-374]
13536	[1-254]
13537	[1-296]
13538	[1-200]
13539	[1-112]
13540	[1-354]
13541	[1-309]
13542	[1-348]
13543	[1-361]
13544	[1-161]
13545	[1-200]
13546	[1-53]
13547	[1-129]
13548	[1-232]
13549	[1-134]
13550	[1-170]
13551	[1-225]
13552	[1-97]
13553	[1-162]
13554	[1-78]
13555	[1-338]
13556	[1-446]
13557	[1-419]
13558	[1-125]
13559	[1-129]
13560	[1-380]
13561	[1-285]
13563	[1-383]
13564	[1-92]
13566	[1-93]
13567	[1-119]

Seq Id No.	Positions of preferred fragments
13568	[1-297]
13569	[1-156]
13570	[1-324]
13571	[1-115]
13572	[1-109]
13573	[1-224]
13574	[1-342]
13575	[1-200]
13576	[1-161]
13577	[1-149]
13578	[1-92]
13579	[1-70]
13580	[1-51]
13581	[58-272]
13582	[1-111]
13583	[1-152]
13584	[1-412]
13585	[87-118]
13586	[1-85],[153-504]
13587	[1-374]
13588	[1-313]
13589	[1-107]
13590	[1-366]
13591	[1-175]
13592	[1-91]
13594	[1-144]
13595	[1-173]
13596	[1-111]
13597	[1-270]
13598	[1-306]
13599	[1-225]
13600	[1-157]
13601	[1-81]
13602	[1-375]
13603	[1-125]
13604	[1-312]
13605	[1-342]
13606	[116-183]
13607	[1-112]
13608	[1-120]
13609	[1-108]
13610	[1-174]
13611	[1-377]
13612	[1-303]
13613	[1-506]
13614	[1-165]
13617	[177-246]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13618	[1-494]
13619	[1-436]
13620	[1-92]
13621	[1-522]
13622	[1-443]
13623	[1-221],[302-460]
13624	[1-386]
13625	[1-476]
13628	[1-115]
13630	[1-232]
13631	[1-471]
13633	[1-60],[129-314],[374-466]
13634	[1-513]
13637	[1-504]
13638	[1-465]
13640	[1-443]
13641	[1-385]
13643	[1-328]
13644	[1-362]
13645	[92-267]
13647	[1-113]
13649	[1-62]
13651	[1-486]
13652	[1-442]
13653	[1-475]
13654	[1-79]
13655	[1-284]
13656	[1-473]
13658	[1-145]
13659	[1-490]
13660	[1-481]
13662	[1-102]
13663	[1-440]
13664	[1-447]
13665	[1-471]
13667	[1-86],[175-253]
13668	[387-475]
13671	[1-371]
13673	[1-460]
13674	[1-447]
13675	[1-479]
13676	[1-70]
13677	[193-468]
13678	[1-93],[189-467]
13679	[1-192]
13680	[1-355]
13681	[1-463]

Seq Id No.	Positions of preferred fragments
13682	[1-424]
13683	[1-454]
13684	[1-297],[344-505]
13685	[143-173]
13686	[1-376]
13687	[1-103],[211-469]
13688	[1-291]
13689	[1-402]
13690	[1-510]
13691	[1-492]
13693	[1-511]
13694	[1-229]
13695	[1-513]
13696	[1-472]
13697	[1-312]
13699	[1-130]
13700	[1-266]
13704	[1-125],[167-479]
13705	[1-462]
13706	[85-474]
13707	[1-203]
13708	[1-486]
13709	[1-431]
13710	[1-425]
13711	[1-468]
13712	[158-358]
13713	[45-421]
13714	[1-237]
13715	[1-467]
13716	[1-499]
13717	[1-504]
13718	[1-489]
13719	[1-420]
13720	[1-507]
13721	[1-487]
13722	[1-468]
13723	[1-372]
13724	[1-116]
13725	[227-483]
13726	[1-454]
13727	[1-476]
13728	[1-458]
13729	[1-74],[117-417]
13730	[1-137]
13731	[1-370]
13732	[1-113]
13733	[45-408]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13734	[245-472]
13735	[1-263]
13737	[1-476]
13738	[1-282]
13739	[1-469]
13740	[1-348]
13741	[132-357]
13742	[1-136],[416-483]
13744	[1-468]
13745	[1-480]
13746	[239-449]
13747	[1-462]
13748	[1-491]
13749	[1-361]
13750	[1-287]
13751	[1-436]
13752	[1-59]
13755	[1-461]
13756	[1-93]
13758	[1-433]
13759	[1-61]
13760	[1-437]
13761	[1-60]
13764	[1-493]
13765	[1-115]
13766	[1-459]
13767	[1-543]
13768	[1-392]
13769	[1-97]
13770	[1-178]
13771	[1-463]
13772	[1-396]
13773	[1-313]
13774	[1-582]
13775	[1-507]
13776	[1-342]
13777	[1-407]
13778	[1-475]
13779	[1-534]
13780	[1-264]
13782	[1-320],[363-485]
13783	[1-81]
13784	[1-266]
13786	[1-499]
13787	[1-478]
13788	[1-605]
13789	[48-472]
13791	[1-500]
13793	[255-433]
13794	[1-215]
13795	[1-507]
13796	[1-363]
13797	[1-146]
13798	[1-209],[398-451]
13799	[1-294]
13800	[1-343]
13801	[1-420]
13802	[1-134],[255-465]
13803	[1-369]
13805	[1-139]
13806	[59-100]
13807	[1-348]
13808	[1-72]
13809	[1-125],[157-471]
13811	[1-466]
13812	[1-320]
13813	[1-294]
13814	[1-475]
13815	[1-481]
13816	[1-41]
13818	[1-443]
13820	[1-105]
13821	[1-428]
13822	[1-485]
13823	[1-257]
13824	[1-139]
13825	[1-477]
13826	[37-460]
13827	[1-481]
13828	[1-52]
13829	[1-471]
13830	[1-428]
13831	[1-32]
13832	[224-496]
13833	[1-402]
13834	[1-479]
13835	[1-487]
13836	[1-62]
13837	[381-537]
13838	[1-481]
13839	[271-452]
13841	[1-353]
13842	[1-63]
13843	[1-494]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13844	[1-429]
13845	[1-472]
13846	[1-268]
13847	[1-316]
13848	[214-390]
13850	[1-465]
13851	[1-234]
13852	[1-52]
13853	[1-304]
13854	[1-486]
13855	[1-354]
13856	[1-464]
13859	[1-667]
13860	[147-353]
13862	[1-506]
13863	[1-480]
13864	[1-315]
13865	[1-149],[237-516]
13866	[1-491]
13868	[1-468]
13869	[1-382]
13872	[1-278]
13873	[1-386]
13875	[1-502]
13876	[1-239]
13878	[1-248]
13879	[1-480]
13880	[1-313],[344-481]
13881	[1-27],[90-131],[354-433]
13882	[1-242]
13883	[1-387]
13884	[1-85]
13885	[1-403]
13886	[1-343]
13887	[1-211]
13888	[1-513]
13889	[1-214]
13890	[1-488]
13891	[1-574]
13893	[1-503]
13894	[1-100]
13896	[1-388]
13897	[75-543]
13898	[1-521]
13899	[1-133]
13900	[73-127]
13901	[1-103]

Seq Id No.	Positions of preferred fragments
13903	[89-176]
13904	[1-74]
13905	[1-40],[82-259]
13906	[1-159]
13907	[1-276]
13908	[1-181]
13909	[1-69]
13911	[1-600]
13912	[1-183]
13913	[216-327]
13914	[1-254]
13915	[1-75]
13916	[1-181]
13917	[1-67]
13918	[1-108]
13919	[1-437]
13920	[1-64]
13921	[1-54],[345-463]
13922	[1-304],[663-691]
13923	[1-381]
13924	[1-450]
13925	[1-356]
13927	[1-477]
13929	[1-388]
13930	[1-221]
13931	[435-463]
13932	[1-457]
13933	[1-127]
13934	[1-154]
13935	[1-173]
13937	[1-57]
13938	[1-340]
13939	[1-451]
13940	[1-413]
13941	[1-426]
13942	[1-218]
13943	[1-155],[199-395]
13944	[1-507]
13945	[1-487]
13946	[1-223]
13947	[80-456]
13948	[1-123]
13949	[1-488]
13950	[1-508]
13951	[1-443]
13952	[1-172],[283-449]
13953	[1-89]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
13954	[1-511]
13956	[1-200]
13957	[1-330]
13958	[1-94]
13959	[1-399]
13960	[53-236]
13961	[1-512]
13963	[1-62]
13964	[1-510]
13965	[1-112]
13967	[1-422]
13968	[1-512]
13969	[200-485]
13970	[73-178]
13971	[1-435]
13972	[1-542]
13973	[1-491]
13974	[1-55]
13975	[1-180]
13976	[1-77]
13977	[1-266]
13978	[1-327]
13979	[1-387]
13980	[1-339]
13982	[1-417]
13984	[1-241]
13985	[1-447]
13986	[1-145]
13987	[1-100]
13988	[1-499]
13989	[79-150]
13990	[1-459]
13991	[1-501]
13992	[86-132]
13994	[1-480]
13995	[1-485]
13996	[1-343]
13997	[1-466]
13999	[1-479]
14000	[1-467]
14001	[1-368]
14002	[1-325]
14003	[1-115]
14004	[1-132],[395-447]
14005	[1-418]
14006	[1-492]
14007	[1-447]
14008	[1-478]
14009	[1-336]
14011	[1-281]
14012	[1-524]
14013	[1-529]
14014	[1-343]
14015	[1-231]
14016	[1-518]
14017	[1-57]
14018	[1-440]
14019	[1-496]
14020	[1-499]
14021	[1-428]
14022	[1-387]
14023	[1-382]
14024	[1-87]
14025	[1-255]
14026	[211-502]
14027	[1-317]
14028	[1-119]
14030	[1-228]
14031	[1-483]
14032	[1-89]
14033	[1-77]
14034	[1-458]
14035	[1-58],[214-440]
14036	[1-312]
14037	[1-460]
14038	[1-490]
14039	[1-475]
14040	[1-272],[385-478]
14041	[1-510]
14043	[1-535]
14044	[1-319]
14045	[1-479]
14046	[1-485]
14048	[1-371]
14049	[1-290],[327-473]
14050	[1-111]
14051	[1-499]
14053	[1-155]
14054	[1-195],[247-486]
14055	[1-513]
14056	[1-111],[260-383]
14057	[1-485]
14058	[1-201]
14059	[1-322]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14061	[1-129]
14062	[81-421]
14066	[238-282]
14067	[1-170]
14068	[1-242]
14069	[1-484]
14071	[255-487]
14072	[1-243]
14073	[1-289]
14074	[1-439]
14075	[1-468]
14077	[1-258]
14078	[1-314]
14079	[1-509]
14080	[1-489]
14081	[1-497]
14082	[1-204]
14083	[1-392]
14084	[1-46]
14085	[1-473]
14086	[1-35],[351-414]
14087	[1-445]
14089	[1-441]
14090	[1-394]
14092	[1-501]
14093	[180-326]
14094	[1-514]
14095	[1-504]
14096	[1-186]
14098	[1-225]
14100	[287-432]
14102	[1-354]
14103	[1-454]
14104	[1-607]
14105	[1-69]
14106	[36-429]
14107	[1-379]
14108	[1-488]
14109	[1-240]
14110	[1-171]
14112	[1-74]
14113	[1-481]
14114	[63-191]
14115	[1-259]
14116	[1-125]
14117	[1-483]
14118	[1-159],[200-473]

Seq Id No.	Positions of preferred fragments
14120	[1-430]
14122	[1-403]
14123	[1-481]
14124	[1-315]
14125	[1-417]
14126	[1-503]
14127	[1-493]
14128	[1-182]
14129	[1-385]
14130	[1-62]
14131	[1-295]
14132	[1-496]
14133	[1-452]
14134	[60-372]
14135	[1-449]
14136	[1-438]
14137	[1-181]
14138	[1-472]
14139	[1-444]
14141	[59-87]
14142	[1-52]
14144	[1-316]
14145	[1-509]
14146	[1-497]
14147	[1-67]
14148	[155-291]
14149	[1-100]
14151	[67-456]
14152	[1-406]
14153	[1-443]
14154	[1-156]
14155	[187-267]
14156	[1-333]
14157	[1-503]
14158	[1-166],[286-328],[380-460]
14159	[1-354]
14160	[1-147]
14162	[1-69]
14163	[37-472]
14164	[1-461]
14165	[1-543]
14166	[387-424]
14167	[1-538]
14168	[1-372]
14171	[1-448]
14172	[1-106]
14173	[1-487]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14174	[1-491]
14175	[1-600]
14176	[1-77]
14177	[1-529]
14179	[1-498]
14180	[1-301]
14181	[1-439]
14182	[1-203]
14183	[1-436]
14184	[1-413]
14186	[1-391]
14187	[1-468]
14188	[72-97]
14189	[1-74]
14190	[1-323]
14191	[1-453]
14192	[1-489]
14194	[198-497]
14195	[1-180]
14196	[1-452]
14197	[1-474]
14199	[1-90],[122-156],[247-444]
14200	[311-390]
14203	[1-275]
14204	[1-200]
14205	[1-52],[84-133],[174-484]
14206	[388-434]
14207	[1-300]
14209	[1-465]
14210	[110-232]
14211	[1-341]
14212	[1-106]
14213	[1-466]
14214	[1-327]
14215	[1-458]
14216	[1-494]
14217	[1-203],[278-466]
14218	[1-462]
14220	[1-248],[404-460]
14222	[1-370]
14224	[1-333],[373-475]
14225	[1-312]
14226	[1-457]
14227	[1-457]
14229	[1-455]
14232	[1-334]
14234	[1-118]

Seq Id No.	Positions of preferred fragments
14235	[1-458]
14236	[1-88],[364-407]
14238	[1-477]
14239	[1-213]
14240	[1-216],[256-487]
14241	[1-464]
14242	[1-454]
14244	[1-470]
14245	[1-31],[137-367]
14246	[1-81]
14247	[1-262]
14248	[1-227]
14249	[1-410]
14250	[1-27]
14251	[1-272]
14252	[1-462]
14253	[1-431]
14254	[1-100]
14255	[1-391]
14257	[1-171]
14258	[1-364]
14259	[1-436]
14260	[1-425]
14261	[1-359]
14262	[1-269]
14263	[1-138]
14264	[1-491]
14265	[1-345]
14266	[1-394]
14267	[1-467]
14268	[1-185]
14270	[1-232]
14271	[250-318],[434-467]
14273	[1-62]
14274	[1-278]
14275	[1-396]
14276	[1-164]
14277	[1-479]
14278	[1-523]
14280	[1-316]
14281	[1-500]
14282	[1-271]
14283	[1-267]
14284	[1-409]
14285	[1-75]
14286	[1-157]
14288	[1-445]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14289	[1-434]
14291	[1-339]
14292	[1-418]
14293	[1-85]
14294	[1-491]
14295	[1-433]
14297	[1-445]
14299	[1-379]
14300	[1-454]
14301	[1-363]
14303	[1-431]
14304	[1-453]
14305	[1-425]
14306	[1-436]
14307	[311-405]
14308	[1-260]
14309	[1-477]
14310	[1-496]
14311	[1-378]
14313	[1-442]
14314	[1-282]
14315	[1-66]
14316	[1-371]
14318	[1-429]
14319	[1-299]
14320	[1-111]
14322	[1-156]
14323	[1-392]
14324	[1-277]
14326	[1-461]
14327	[1-452]
14328	[1-423]
14329	[1-218]
14331	[1-277]
14333	[1-82]
14334	[1-420]
14335	[1-410]
14336	[1-266]
14337	[1-434]
14339	[1-448]
14342	[1-373],[412-481]
14343	[1-416]
14344	[1-464]
14346	[1-289]
14347	[1-383]
14348	[1-313]
14349	[1-418]
14350	[1-428]
14351	[1-325]
14352	[1-182]
14353	[1-162]
14354	[1-514]
14355	[1-96]
14356	[1-352]
14357	[401-498]
14358	[1-198]
14359	[1-550]
14361	[1-334]
14362	[1-453]
14363	[1-214],[316-347]
14364	[1-495]
14368	[1-310]
14369	[1-454]
14370	[1-297]
14371	[1-121],[384-430]
14372	[1-462]
14373	[1-512]
14374	[1-73]
14376	[1-449]
14377	[1-193]
14378	[1-307]
14379	[1-477]
14381	[1-269]
14383	[1-126],[338-483]
14384	[1-412]
14385	[1-239]
14387	[49-451]
14389	[1-443]
14390	[1-145]
14391	[1-115]
14392	[1-451]
14393	[1-470]
14394	[1-474]
14395	[1-442]
14396	[1-372]
14397	[1-122]
14398	[1-457]
14399	[1-457]
14400	[1-296]
14401	[1-170]
14402	[1-379]
14403	[1-477]
14404	[318-386]
14405	[1-481]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14406	[1-477]
14407	[1-474]
14410	[1-357]
14412	[1-320]
14414	[1-476]
14415	[1-301]
14416	[1-169]
14417	[1-439]
14418	[1-343]
14419	[1-71],[105-190],[248-302]
14420	[1-171],[200-463]
14421	[1-45],[208-402]
14422	[1-455]
14423	[1-447]
14424	[1-455]
14425	[1-173]
14426	[1-373]
14427	[1-415]
14428	[1-213]
14429	[1-442]
14430	[1-465]
14431	[1-256]
14432	[1-295]
14433	[1-398]
14434	[1-477]
14436	[1-119]
14437	[1-200]
14438	[1-116]
14439	[1-470]
14440	[1-178]
14441	[1-435]
14443	[1-482]
14445	[1-419]
14447	[1-435]
14448	[1-310]
14449	[1-458]
14450	[1-432]
14451	[72-443]
14452	[51-94],[139-415]
14453	[1-433]
14454	[1-215]
14455	[1-461]
14456	[59-322]
14457	[1-473]
14458	[1-374]
14459	[1-457]
14460	[1-70]

Seq Id No.	Positions of preferred fragments
14463	[1-463]
14464	[1-449]
14465	[1-96]
14466	[1-444]
14467	[1-461]
14468	[1-448]
14469	[1-233]
14471	[1-448]
14472	[1-375]
14473	[1-369]
14474	[1-229],[280-451]
14475	[1-458]
14476	[1-197]
14477	[1-441]
14479	[1-151]
14480	[1-422]
14481	[1-329]
14482	[1-93]
14484	[1-401]
14485	[1-344]
14488	[1-441]
14489	[1-334]
14490	[1-443]
14491	[1-386]
14492	[1-82]
14493	[141-324]
14494	[1-408]
14495	[1-417]
14496	[1-446]
14497	[183-217]
14498	[1-433]
14499	[1-453]
14500	[1-171]
14501	[1-453]
14503	[1-298]
14504	[1-475]
14505	[1-416]
14506	[1-276],[307-432]
14508	[1-342]
14509	[1-369]
14510	[1-450]
14511	[1-89]
14512	[1-322]
14513	[1-249]
14514	[1-418]
14515	[1-373]
14516	[164-402]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14519	[1-320]
14520	[1-448]
14522	[1-333]
14523	[1-384]
14524	[1-26]
14526	[1-140]
14527	[1-129]
14528	[1-360]
14529	[1-504]
14530	[1-457]
14531	[1-424]
14532	[1-61]
14534	[1-284]
14535	[1-55]
14536	[1-72]
14537	[1-321]
14538	[1-425]
14540	[1-498]
14541	[1-480]
14542	[1-507]
14543	[1-226]
14544	[1-541]
14545	[1-523]
14546	[246-317],[363-583]
14547	[1-487]
14548	[1-367]
14550	[1-166]
14551	[1-487]
14552	[1-451]
14553	[1-359]
14554	[1-447]
14555	[1-498]
14556	[1-56]
14558	[1-464]
14559	[1-471]
14560	[1-87]
14562	[222-382]
14563	[1-424]
14565	[1-464]
14566	[1-301]
14568	[47-75]
14569	[1-347]
14570	[1-324]
14571	[1-84]
14572	[1-483]
14573	[1-311]
14574	[1-341]
14577	[1-84]
14578	[1-408]
14579	[1-178]
14580	[1-413]
14581	[1-292],[400-488]
14582	[1-322]
14583	[1-399]
14584	[1-482]
14585	[1-325]
14586	[1-399]
14587	[1-332]
14588	[1-280]
14589	[1-284]
14590	[1-357]
14591	[1-364]
14592	[1-109]
14593	[1-478]
14594	[1-507]
14595	[1-238]
14596	[1-433]
14597	[1-492]
14599	[1-167]
14600	[240-483]
14601	[1-374]
14603	[1-510]
14605	[1-440]
14606	[1-416]
14608	[1-418]
14609	[1-361]
14610	[1-335]
14612	[1-50]
14613	[1-410]
14614	[1-224]
14615	[1-163]
14616	[1-495]
14617	[1-430]
14618	[1-352]
14619	[1-83]
14620	[296-321]
14621	[1-156],[190-491]
14623	[1-483]
14625	[1-484]
14626	[1-359]
14627	[1-52]
14628	[1-511]
14629	[1-233]
14630	[1-129]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14631	[1-82]
14632	[1-475]
14633	[1-520]
14634	[1-316]
14635	[1-308]
14636	[1-465]
14637	[1-288]
14638	[1-222]
14639	[1-251]
14640	[413-498]
14641	[1-397]
14642	[1-424]
14644	[1-217]
14645	[1-501]
14646	[1-470]
14647	[1-143],[223-293]
14648	[1-58]
14649	[1-322]
14650	[1-486]
14651	[1-478]
14652	[1-447]
14653	[1-438]
14654	[341-388]
14655	[43-79]
14656	[1-482]
14657	[1-508]
14658	[1-329]
14659	[1-398]
14661	[1-194]
14662	[183-497]
14663	[1-484]
14665	[1-481]
14666	[1-126]
14667	[1-323]
14668	[1-90]
14669	[1-425]
14670	[1-448]
14671	[1-172]
14672	[1-59]
14673	[1-29]
14676	[1-275]
14677	[1-111]
14678	[1-472]
14679	[1-168]
14680	[1-61]
14681	[1-61]
14682	[1-59]
14683	[1-419]
14685	[1-320]
14687	[1-314]
14688	[1-97]
14689	[1-92]
14690	[1-340]
14693	[1-77]
14694	[1-75]
14697	[1-368]
14699	[1-365]
14700	[1-288]
14701	[1-124]
14702	[1-357]
14703	[1-60]
14704	[1-195]
14705	[1-74]
14706	[1-293]
14708	[1-345]
14709	[1-509]
14710	[1-449]
14711	[1-335]
14712	[1-59]
14713	[1-216]
14714	[1-217]
14715	[1-50]
14716	[1-95]
14717	[1-80]
14718	[1-406]
14719	[1-274]
14720	[1-492]
14721	[1-433]
14722	[1-135]
14723	[1-420]
14724	[1-94]
14725	[1-483]
14726	[1-465]
14728	[1-217]
14729	[1-73]
14731	[45-184]
14732	[1-433]
14733	[1-304]
14734	[1-437]
14735	[1-461]
14737	[1-148]
14738	[1-411]
14739	[1-517]
14740	[1-308]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14741	[1-85]
14742	[1-60]
14743	[1-65]
14744	[1-404]
14745	[1-498]
14746	[1-463]
14747	[1-413]
14748	[109-195]
14749	[1-89]
14750	[1-70]
14751	[1-83]
14752	[1-284]
14753	[1-67]
14754	[1-61]
14755	[1-195]
14756	[1-63]
14757	[1-90]
14758	[54-209]
14759	[1-527]
14761	[1-189]
14763	[1-317]
14764	[1-63]
14765	[1-495]
14766	[1-508]
14767	[1-379]
14768	[199-393]
14769	[1-474]
14770	[1-263]
14771	[1-528]
14772	[450-510]
14773	[1-514]
14774	[1-298]
14775	[1-281]
14777	[1-162]
14778	[1-445]
14781	[61-269]
14782	[1-162]
14783	[1-83]
14784	[1-417]
14786	[1-83]
14787	[1-75]
14788	[1-442]
14790	[1-264]
14791	[1-301]
14795	[1-356]
14796	[1-278]
14797	[1-328]
14798	[61-259]
14799	[1-61]
14800	[1-55]
14801	[1-342]
14803	[1-54]
14804	[1-102]
14805	[1-81]
14806	[1-110]
14807	[1-430]
14808	[1-430]
14809	[1-292]
14811	[1-441]
14812	[1-77]
14813	[1-69]
14814	[1-456]
14815	[1-72]
14816	[1-340]
14818	[1-195]
14819	[1-66]
14820	[1-54]
14821	[1-436]
14822	[1-343]
14823	[1-317]
14824	[1-78]
14825	[1-62]
14826	[1-386]
14827	[1-58]
14829	[1-478]
14830	[1-103]
14831	[1-76]
14833	[1-119],[154-405]
14834	[1-61]
14835	[1-86]
14836	[1-494]
14837	[1-458]
14838	[1-69]
14839	[1-344]
14840	[1-217]
14841	[1-328]
14842	[1-72]
14843	[1-430]
14845	[1-253]
14846	[1-66]
14847	[1-109]
14848	[1-187],[268-387]
14849	[1-87]
14850	[1-480]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14851	[1-196]
14852	[1-423]
14853	[1-65]
14854	[1-480]
14855	[1-138]
14856	[1-309]
14857	[1-323]
14858	[1-64]
14859	[1-85]
14860	[1-71]
14861	[1-470]
14862	[1-103]
14863	[1-166]
14865	[1-495]
14866	[1-217]
14868	[1-473]
14869	[1-69]
14870	[1-276]
14871	[1-93]
14873	[1-417]
14874	[1-197]
14876	[1-154]
14877	[1-435]
14879	[1-323]
14880	[1-302]
14881	[1-221]
14882	[1-269]
14884	[1-60]
14885	[1-462]
14886	[1-114]
14887	[1-481]
14888	[1-389]
14889	[1-194]
14890	[1-240]
14891	[1-301]
14892	[1-75]
14893	[1-357]
14894	[1-386]
14895	[1-481]
14896	[1-181]
14897	[1-485]
14898	[1-330]
14900	[1-285]
14901	[1-78]
14903	[1-435]
14905	[1-71]
14906	[1-297]

Seq Id No.	Positions of preferred fragments
14907	[1-370]
14908	[1-413]
14909	[1-386]
14910	[1-119]
14911	[1-302]
14912	[1-152]
14913	[1-52]
14914	[1-50]
14915	[1-76]
14916	[1-78]
14917	[1-482]
14918	[1-293]
14919	[1-496]
14920	[1-59]
14921	[1-474]
14922	[1-195]
14923	[1-113]
14924	[1-328]
14925	[1-91]
14926	[1-84]
14927	[1-112]
14928	[1-122]
14929	[1-216]
14930	[1-477]
14931	[1-91]
14932	[1-234]
14933	[1-339]
14934	[1-313]
14935	[1-449]
14936	[1-62]
14937	[1-144]
14940	[1-157]
14941	[1-431]
14943	[45-328]
14944	[1-91]
14945	[1-62]
14946	[1-95]
14947	[1-94]
14948	[1-61]
14949	[1-85]
14950	[1-195]
14951	[1-224]
14952	[1-486]
14953	[1-94]
14954	[1-249]
14955	[37-491]
14956	[1-501]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
14957	[1-124],[155-216]
14958	[1-83]
14959	[1-83]
14960	[1-88]
14961	[1-427]
14963	[1-73]
14964	[1-30]
14965	[1-458]
14966	[1-63]
14967	[1-118]
14968	[1-58]
14970	[1-105]
14971	[1-235]
14972	[1-48],[259-469]
14973	[1-180]
14974	[1-89]
14976	[1-178]
14979	[177-214]
14980	[1-413]
14981	[1-448]
14982	[1-380]
14983	[1-217]
14984	[1-305]
14985	[1-507]
14986	[1-470]
14987	[1-484]
14988	[1-363]
14989	[1-53]
14991	[1-433]
14992	[1-125]
14993	[1-113]
14994	[1-54]
14995	[1-487]
14996	[1-92]
14997	[1-447]
14998	[1-387]
14999	[1-166]
15000	[1-156]
15001	[1-155]
15002	[1-114]
15003	[1-169]
15004	[1-67]
15005	[115-245]
15006	[1-217]
15008	[1-419]
15009	[1-192]
15010	[1-446]

Seq Id No.	Positions of preferred fragments
15011	[1-365]
15013	[1-61]
15014	[37-481]
15016	[1-434]
15017	[1-162]
15018	[1-83],[166-228]
15019	[1-167]
15020	[1-500]
15021	[1-195]
15022	[1-419]
15023	[1-32]
15024	[1-81]
15026	[1-243]
15027	[1-93]
15028	[1-91]
15029	[1-216]
15030	[1-381]
15031	[1-82]
15032	[1-432]
15034	[1-422]
15035	[1-492]
15036	[1-284]
15037	[1-154]
15038	[1-454]
15039	[1-338]
15040	[1-119],[155-431]
15041	[1-90]
15042	[1-503]
15043	[1-301]
15044	[1-248]
15045	[1-329]
15046	[1-174]
15047	[1-134]
15048	[1-431]
15049	[1-84]
15050	[1-465]
15051	[1-284]
15052	[37-474]
15053	[1-548]
15054	[1-349]
15055	[1-310]
15056	[1-113]
15057	[1-74]
15059	[1-468]
15060	[1-91]
15061	[1-162]
15062	[1-51]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
15064	[1-72]	15121	[1-483]
15066	[1-70]	15122	[1-525]
15067	[1-445]	15123	[1-478]
15068	[1-281]	15124	[1-309],[350-375]
15069	[1-436]	15127	[126-165]
15071	[1-478]	15131	[1-617]
15072	[1-425]	15132	[1-540]
15073	[1-75]	15133	[1-232]
15074	[1-406]	15134	[1-351]
15075	[1-177]	15135	[1-440]
15076	[1-418]	15136	[1-189],[219-493]
15077	[1-349]	15138	[1-207]
15078	[1-75]	15139	[1-225]
15079	[1-177]	15140	[1-535]
15081	[1-409]	15142	[249-289]
15082	[1-189]	15143	[1-479]
15086	[1-255]	15144	[1-447]
15087	[1-132]	15145	[414-457]
15088	[1-373]	15146	[1-400]
15089	[1-162]	15147	[1-51]
15090	[1-79]	15149	[1-437]
15091	[1-98]	15150	[1-282],[334-570]
15092	[1-78]	15151	[1-464]
15093	[1-342]	15154	[1-43],[89-484]
15094	[33-64],[290-445]	15155	[1-239],[402-651]
15096	[1-371]	15156	[1-475]
15098	[1-520]	15158	[1-172]
15099	[1-450]	15162	[1-420]
15100	[1-272]	15163	[227-436]
15101	[392-573]	15164	[1-533]
15102	[1-290]	15166	[1-484]
15103	[1-489]	15167	[266-291]
15104	[1-368]	15168	[1-294]
15105	[1-454]	15169	[1-85]
15106	[1-405]	15170	[1-478]
15107	[1-406]	15171	[1-50],[278-416]
15108	[1-337]	15172	[1-66]
15109	[1-163],[451-568]	15173	[1-475]
15111	[48-372]	15174	[1-201],[230-425]
15112	[129-255]	15175	[1-122]
15113	[1-406]	15176	[1-445]
15114	[425-539]	15177	[1-64]
15116	[1-558]	15178	[1-35]
15117	[412-529]	15179	[1-473]
15118	[1-407]	15180	[1-34]
15119	[1-306],[352-495]	15181	[1-591]
15120	[1-478]	15182	[1-250]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15183	[1-377]
15184	[1-454]
15185	[1-376]
15186	[1-436]
15187	[1-382]
15188	[1-494]
15189	[1-521]
15190	[1-503]
15191	[1-433]
15192	[1-567]
15194	[1-264]
15195	[1-451]
15196	[1-368]
15197	[1-302]
15198	[1-459]
15199	[1-431]
15200	[1-460]
15201	[1-464]
15202	[1-496]
15203	[1-397]
15204	[1-394]
15205	[1-436]
15206	[1-435]
15208	[1-437]
15209	[1-435]
15210	[1-435]
15211	[1-474]
15212	[1-509]
15213	[1-490]
15214	[1-472]
15215	[1-461]
15216	[1-406]
15217	[1-469]
15218	[1-460]
15219	[1-519]
15220	[1-337]
15221	[1-122]
15223	[1-544]
15224	[1-92],[137-494]
15225	[1-59],[104-484]
15226	[1-86]
15227	[1-34]
15228	[1-523]
15229	[1-511]
15230	[1-348]
15231	[1-34]
15232	[1-300]

Seq Id No.	Positions of preferred fragments
15233	[1-398]
15234	[1-389]
15237	[1-152],[370-514]
15238	[1-152],[369-442]
15239	[72-112]
15240	[1-475]
15241	[1-435]
15242	[1-394]
15244	[1-601]
15245	[1-506]
15246	[1-521]
15247	[1-468]
15248	[1-345]
15249	[1-293]
15251	[1-577]
15252	[1-425]
15253	[1-185]
15254	[1-434]
15256	[1-501]
15257	[1-493]
15258	[1-454]
15259	[1-466]
15261	[1-402]
15262	[1-448]
15263	[1-492]
15264	[1-381]
15268	[145-201]
15269	[145-201]
15270	[145-180]
15273	[487-512]
15274	[47-187]
15279	[1-533]
15280	[1-459]
15281	[1-460]
15282	[1-506]
15283	[1-641]
15284	[1-295]
15286	[1-292]
15287	[1-378]
15289	[1-377]
15290	[1-533]
15291	[59-348]
15292	[1-230]
15294	[1-142]
15295	[1-73]
15296	[59-203]
15297	[1-31]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15299	[1-50],[80-491]
15300	[1-416]
15301	[1-412]
15302	[1-53]
15303	[1-784]
15304	[1-488]
15305	[1-130],[172-445]
15306	[1-491]
15307	[1-480]
15308	[1-490]
15309	[1-606]
15310	[1-511]
15311	[1-497]
15313	[137-210]
15314	[135-195]
15315	[1-490]
15316	[136-168]
15317	[136-194]
15318	[138-166]
15319	[136-173]
15320	[136-180]
15322	[136-178]
15323	[137-179]
15324	[1-450]
15325	[1-573]
15326	[1-381]
15327	[1-490]
15329	[1-315]
15331	[1-167]
15332	[1-443]
15333	[91-268],[417-454]
15334	[1-457]
15335	[1-278]
15336	[1-94],[140-361]
15337	[70-186]
15338	[1-489]
15340	[1-522]
15341	[1-197]
15342	[1-350]
15343	[1-121]
15345	[1-482]
15346	[1-499]
15347	[1-447]
15348	[1-395]
15349	[93-263]
15350	[1-392]
15351	[1-517]
15352	[1-390]
15353	[193-258]
15354	[1-208],[322-350],[452-485]
15355	[1-444]
15356	[1-500]
15357	[1-426]
15358	[1-415]
15359	[1-413]
15360	[1-416]
15361	[1-412]
15362	[1-416]
15363	[1-433]
15364	[1-414]
15365	[1-454]
15366	[1-425]
15367	[1-413]
15368	[1-442]
15369	[1-549]
15371	[1-501]
15372	[1-495]
15374	[1-420]
15375	[1-526]
15376	[1-496]
15377	[1-569]
15379	[1-125]
15380	[1-506]
15383	[1-39],[128-177],[270-491]
15390	[1-417]
15391	[1-442]
15392	[1-128]
15394	[1-162],[420-444]
15395	[1-482]
15396	[1-472]
15397	[1-490]
15398	[1-237],[266-431]
15399	[1-486]
15400	[1-575]
15401	[1-490]
15402	[1-483]
15403	[1-486]
15404	[1-49],[166-275]
15405	[1-50]
15406	[1-48]
15407	[1-295]
15410	[102-506]
15411	[1-57]
15412	[95-153]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15414	[1-445]
15415	[1-362]
15416	[173-221]
15417	[102-201]
15418	[1-472]
15419	[54-83],[134-196],[248-414],[445-504]
15420	[1-96]
15421	[1-515]
15422	[1-416]
15423	[1-60]
15425	[1-490]
15426	[1-801]
15427	[1-216]
15428	[1-495]
15429	[1-291]
15431	[1-69]
15432	[43-314]
15433	[1-488]
15434	[1-212]
15435	[1-410]
15436	[1-179]
15439	[78-164]
15442	[1-297]
15443	[1-200]
15445	[1-568]
15446	[1-477]
15447	[1-148]
15448	[1-205],[250-504]
15449	[1-402]
15450	[315-483]
15452	[1-377]
15453	[1-114]
15454	[1-411]
15455	[1-153],[189-304],[370-540]
15456	[1-390]
15457	[1-457]
15458	[1-313]
15459	[1-492]
15460	[1-410]
15461	[1-378]
15462	[1-468]
15463	[1-517]
15464	[1-410]
15465	[1-208]
15466	[1-114]
15467	[1-209]
15468	[1-208]

Seq Id No.	Positions of preferred fragments
15469	[1-209]
15470	[1-208]
15471	[1-376]
15472	[1-446]
15473	[1-461]
15474	[1-466]
15475	[1-283],[337-447]
15478	[1-453]
15480	[1-297]
15481	[1-340]
15482	[1-476]
15483	[1-506]
15484	[349-500]
15485	[1-47],[172-257]
15486	[1-185],[339-512]
15487	[1-444]
15488	[1-268]
15489	[1-352]
15490	[1-607]
15491	[1-553]
15492	[1-465]
15493	[1-497]
15494	[1-488]
15495	[1-485]
15496	[1-230]
15497	[1-493]
15498	[1-489]
15499	[1-477]
15502	[1-367]
15503	[1-516]
15504	[161-208]
15506	[217-321],[357-401]
15507	[217-316]
15508	[84-118],[163-229]
15509	[1-26],[246-360]
15510	[1-25],[172-261]
15514	[1-44]
15515	[1-479]
15516	[1-343]
15517	[1-180]
15519	[1-457]
15520	[1-111]
15521	[1-442]
15522	[1-415]
15524	[1-510]
15525	[1-542]
15526	[1-287]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15527	[1-406]
15528	[278-352]
15529	[1-447]
15530	[1-454]
15531	[112-290]
15532	[1-399]
15533	[1-272]
15535	[278-352]
15536	[1-585]
15537	[1-515]
15538	[1-50]
15539	[1-424]
15540	[1-499]
15541	[1-72]
15542	[1-188]
15543	[1-184]
15544	[1-499]
15545	[1-476]
15546	[1-358]
15547	[1-501]
15548	[1-490]
15549	[1-469]
15550	[1-508]
15551	[1-231]
15552	[1-456]
15553	[1-162]
15554	[1-242]
15555	[1-406]
15556	[1-250],[348-418]
15557	[1-583]
15560	[153-501]
15561	[1-420]
15562	[1-387]
15563	[1-476]
15564	[1-408]
15565	[1-281]
15566	[1-96]
15567	[1-476]
15568	[190-217]
15570	[1-524]
15571	[49-420]
15572	[1-577]
15573	[1-106],[441-580]
15574	[1-484]
15575	[1-433]
15576	[1-43]
15577	[1-504]
15578	[1-821]
15580	[1-488]
15581	[1-389]
15583	[1-519]
15584	[1-331]
15586	[1-561]
15587	[1-195]
15588	[1-311]
15589	[1-405]
15590	[1-513]
15591	[1-569]
15592	[1-368]
15593	[82-393]
15595	[1-436]
15596	[1-443]
15597	[1-504]
15598	[1-410]
15599	[1-362]
15603	[1-544]
15604	[94-150]
15605	[87-150]
15606	[1-487]
15607	[1-406]
15608	[1-500]
15609	[1-251]
15611	[39-172],[276-317]
15612	[1-481]
15613	[1-220]
15614	[1-113],[235-485]
15615	[1-450]
15617	[74-372]
15618	[1-456]
15619	[1-597]
15620	[1-162]
15622	[313-348]
15623	[1-41]
15625	[1-47]
15627	[1-576]
15628	[54-476]
15629	[1-381]
15630	[49-324]
15631	[1-503]
15633	[1-396]
15634	[1-403]
15635	[1-507]
15636	[1-508]
15638	[1-419]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15639	[1-505]
15641	[1-510]
15643	[1-418]
15645	[1-322]
15646	[1-316]
15647	[1-525]
15648	[1-237]
15649	[1-72],[184-241],[283-353]
15650	[1-526]
15651	[1-43]
15657	[1-467]
15658	[1-110]
15659	[1-221]
15661	[1-308]
15664	[178-210]
15665	[1-482]
15666	[1-26]
15667	[1-324]
15668	[1-374]
15669	[1-234]
15670	[1-464]
15671	[1-227]
15672	[1-300]
15673	[94-560]
15674	[1-493]
15675	[1-244],[453-505]
15677	[1-163]
15678	[1-402]
15679	[1-470]
15680	[339-532]
15681	[1-471]
15682	[1-122]
15683	[1-239]
15684	[1-475]
15685	[1-428],[459-503]
15686	[1-419]
15687	[1-428]
15688	[1-438]
15691	[1-497]
15692	[1-29],[294-386]
15693	[1-587]
15694	[1-201]
15695	[1-296]
15696	[1-525]
15697	[1-466]
15698	[1-250]
15699	[1-464]
15700	[1-372]
15701	[1-118]
15702	[1-502]
15703	[1-482]
15704	[1-503]
15705	[1-503]
15706	[1-401]
15707	[1-67],[109-211]
15711	[1-106]
15715	[1-456]
15716	[1-222]
15717	[1-409]
15719	[1-277]
15721	[1-93],[126-420]
15723	[1-26],[181-287]
15724	[1-36],[191-297]
15726	[1-340]
15727	[1-448]
15728	[1-79]
15731	[194-423]
15732	[1-111],[152-246]
15734	[191-476]
15735	[1-26],[256-397]
15736	[1-472]
15737	[173-271]
15739	[1-423]
15741	[173-259]
15742	[1-323]
15743	[1-370]
15744	[1-380]
15745	[1-58]
15746	[1-64],[205-459]
15748	[1-623]
15749	[173-257]
15760	[173-273]
15768	[1-98]
15791	[1-483]
15801	[1-101]
15802	[1-541]
15823	[1-199]
15844	[1-448]
15846	[1-67]
15855	[1-109]
15921	[1-53]
15940	[40-103]
15956	[1-72]
15968	[81-108]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
15977	[1-443]
15990	[50-439]
15991	[46-220]
15992	[1-151]
15993	[1-203]
15994	[1-151]
15995	[1-151]
15996	[1-446]
15997	[1-151]
15998	[1-150]
15999	[1-151]
16000	[1-153]
16001	[1-151]
16003	[1-424]
16004	[1-498]
16005	[1-151]
16006	[30-125]
16007	[1-272]
16008	[1-359]
16009	[1-292]
16010	[1-362]
16011	[1-281]
16012	[1-329]
16013	[1-336]
16014	[1-306]
16015	[1-339]
16016	[1-282]
16017	[1-302]
16018	[1-327]
16019	[1-359]
16020	[1-305]
16021	[1-296]
16022	[1-297]
16023	[1-279]
16024	[1-326]
16025	[1-102]
16026	[1-347]
16027	[1-324]
16028	[1-315]
16029	[1-282]
16030	[1-307]
16031	[1-332]
16032	[1-333]
16033	[1-297]
16034	[1-281]
16035	[1-306]
16036	[1-526]
16037	[1-279]
16038	[1-335]
16039	[1-276]
16040	[1-318]
16041	[1-338]
16042	[1-365]
16043	[1-280]
16044	[1-334]
16045	[1-333]
16046	[1-280]
16047	[1-175]
16048	[1-371]
16049	[1-296]
16050	[1-332]
16051	[1-336]
16052	[1-329]
16053	[1-332]
16054	[1-281]
16055	[1-319]
16056	[1-320]
16057	[1-306]
16058	[1-357]
16059	[1-281]
16060	[1-281]
16061	[1-335]
16062	[1-110]
16066	[1-405]
16067	[1-516]
16068	[1-78]
16069	[1-404]
16070	[1-399]
16071	[1-26],[194-482]
16073	[1-75],[131-500]
16075	[1-470]
16076	[1-219],[303-328]
16077	[1-191]
16078	[1-357]
16079	[1-430]
16080	[1-265]
16081	[1-104],[375-415]
16082	[1-104],[375-415]
16084	[1-52]
16085	[1-388]
16087	[1-499]
16088	[1-314]
16089	[1-529]
16090	[1-165]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
16093	[1-109]
16094	[1-572]
16096	[258-288]
16098	[1-556]
16099	[257-304]
16100	[257-331]
16102	[1-104]
16103	[1-470]
16104	[1-569]
16105	[1-351]
16106	[1-517]
16108	[1-272]
16109	[1-255]
16110	[1-233]
16111	[1-271]
16115	[82-146]
16116	[1-485]
16117	[1-528]
16118	[1-530]
16119	[1-740]
16120	[1-327]
16121	[1-395]
16122	[1-281]
16123	[1-45]
16124	[1-120],[270-512]
16125	[1-313]
16126	[1-418]
16127	[1-151],[192-293]
16128	[1-151],[192-326]
16129	[1-151],[192-319]
16130	[1-151],[188-301]
16131	[1-151],[192-276]
16132	[1-151],[192-306]
16133	[1-151],[192-310]
16134	[1-151],[192-310]
16135	[1-151],[192-280]
16136	[1-151],[192-347]
16137	[1-151],[192-348]
16138	[1-151],[192-351]
16139	[1-151],[192-300]
16140	[1-151],[192-351]
16141	[1-151],[192-273]
16142	[1-274]
16143	[1-151],[192-328]
16144	[1-151],[192-328]
16145	[1-151],[192-354]
16146	[1-479]

Seq Id No.	Positions of preferred fragments
16147	[1-410]
16149	[1-393]
16150	[1-434]
16151	[1-353]
16152	[1-110]
16153	[1-559]
16154	[1-193]
16155	[1-498]
16156	[1-72]
16157	[1-512]
16158	[1-476]
16159	[1-523]
16160	[1-157]
16161	[1-201]
16162	[1-202]
16163	[1-201]
16164	[1-201]
16165	[1-201]
16166	[1-200]
16167	[1-202]
16168	[1-527]
16170	[1-409]
16171	[1-36],[397-492]
16172	[332-395]
16173	[1-479]
16178	[1-531]
16180	[1-404],[439-494]
16181	[1-196]
16184	[1-409]
16185	[368-413]
16186	[1-431]
16188	[308-405]
16191	[1-477]
16192	[1-488]
16193	[1-211]
16194	[1-112]
16195	[1-447]
16196	[1-493]
16197	[1-369]
16198	[1-441]
16199	[1-478]
16200	[1-435]
16201	[1-451]
16202	[1-492]
16203	[1-364]
16204	[1-146]
16205	[1-467]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16206	[1-463]	16266	[1-353]
16207	[1-430]	16267	[1-461]
16208	[1-444]	16268	[196-451]
16209	[1-453]	16269	[1-430]
16210	[84-204]	16273	[1-450]
16211	[1-393]	16274	[1-337]
16212	[1-343]	16277	[1-263],[296-339]
16213	[1-404]	16278	[1-454]
16214	[1-478]	16279	[1-459]
16215	[1-478]	16280	[1-422]
16216	[1-363]	16281	[1-268]
16217	[1-322]	16282	[1-506]
16218	[1-359]	16283	[1-51]
16219	[1-348]	16284	[80-441]
16220	[1-536]	16285	[453-492]
16221	[1-291]	16287	[205-512]
16222	[1-493]	16288	[1-246]
16224	[1-585]	16289	[1-200]
16225	[1-112]	16290	[1-198]
16226	[1-184],[220-299]	16291	[1-249]
16227	[1-184],[220-300]	16292	[1-249]
16228	[1-409]	16293	[1-222]
16229	[1-416]	16294	[1-259]
16230	[1-516]	16295	[1-217]
16231	[1-483]	16296	[1-363]
16232	[1-385]	16297	[1-575]
16233	[1-56],[128-161]	16298	[1-319]
16234	[1-56],[108-182]	16299	[1-491]
16236	[1-598]	16300	[1-474]
16237	[1-249]	16301	[294-449]
16238	[1-124]	16302	[1-585]
16239	[1-87]	16303	[1-348]
16240	[1-122]	16304	[1-114]
16241	[1-317]	16305	[1-32],[211-300]
16242	[1-97]	16306	[1-34]
16243	[1-502]	16307	[1-275]
16244	[164-401]	16308	[193-457]
16245	[1-496]	16309	[1-55],[147-176]
16246	[1-337]	16311	[1-655]
16248	[1-57],[88-153]	16314	[1-415]
16249	[1-63]	16317	[161-231]
16251	[1-63]	16320	[162-242]
16252	[1-111]	16324	[161-242]
16258	[175-369]	16327	[1-141],[527-587]
16260	[1-56]	16328	[1-142],[528-559]
16263	[1-322]	16329	[1-489]
16265	[1-490]	16331	[1-29]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16332	[1-231],[290-504]	16390	[1-53],[325-440]
16333	[1-146]	16391	[1-456]
16334	[1-487]	16392	[1-407]
16335	[1-204]	16393	[1-406]
16336	[1-442]	16394	[1-376]
16337	[1-513]	16395	[1-449]
16338	[1-205]	16398	[1-419]
16339	[1-212]	16399	[116-508]
16340	[1-241]	16400	[49-95],[132-433]
16341	[1-216]	16401	[1-166],[365-848]
16342	[1-210]	16403	[1-421]
16343	[1-219]	16404	[60-496]
16344	[1-229]	16405	[1-432]
16345	[1-221]	16407	[1-180]
16346	[1-239]	16409	[193-222]
16347	[1-314]	16410	[1-569]
16348	[1-499]	16411	[1-526]
16349	[1-306]	16412	[1-372]
16350	[1-447]	16413	[1-109]
16351	[1-107],[230-304]	16414	[1-423]
16356	[1-534]	16415	[1-402]
16358	[1-473]	16416	[1-442]
16359	[1-494]	16417	[1-442]
16360	[1-432]	16418	[1-395]
16361	[1-281]	16419	[1-400]
16362	[1-97]	16420	[1-403]
16363	[1-506]	16421	[1-371]
16364	[1-457]	16422	[1-392]
16365	[144-438]	16423	[1-464]
16366	[184-260]	16424	[1-413]
16368	[1-391]	16425	[1-193]
16369	[116-205]	16426	[1-317]
16370	[219-478]	16427	[183-504]
16371	[1-406]	16428	[1-317]
16373	[1-515]	16429	[1-295]
16374	[1-495]	16430	[1-319]
16375	[1-436]	16431	[1-294]
16376	[1-441]	16432	[1-293]
16380	[1-400]	16433	[1-292]
16381	[1-167]	16434	[1-334]
16382	[1-82]	16435	[1-298]
16383	[1-497]	16436	[1-139]
16385	[1-41]	16437	[1-379]
16386	[466-490]	16438	[1-384]
16387	[1-391]	16439	[1-301],[330-505]
16388	[1-490]	16440	[1-374]
16389	[80-161]	16441	[1-474]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16442	[1-61]	16502	[1-429]
16444	[1-492]	16503	[1-61]
16445	[349-388]	16504	[1-305]
16446	[1-485]	16505	[1-439]
16447	[1-106],[203-240]	16506	[267-436]
16448	[1-489]	16507	[1-555]
16449	[1-122]	16508	[1-477]
16450	[47-71],[122-274]	16509	[1-362]
16459	[1-166],[251-374]	16510	[1-169]
16460	[1-198],[332-384]	16511	[58-509]
16461	[1-270],[390-467]	16514	[1-193]
16462	[1-495]	16515	[1-198]
16464	[1-473]	16516	[1-197]
16465	[1-441]	16517	[1-403]
16466	[1-489]	16519	[1-382]
16468	[49-131]	16520	[1-465]
16470	[1-392]	16521	[197-287]
16472	[1-113]	16522	[47-76]
16473	[1-462]	16524	[1-110]
16474	[1-252]	16525	[1-413]
16475	[226-448]	16526	[1-358]
16476	[1-82]	16528	[1-59],[250-439]
16477	[1-98],[129-162]	16529	[1-430]
16478	[1-119]	16530	[1-59],[250-470]
16479	[1-95]	16531	[1-59],[250-466]
16480	[1-104]	16533	[1-422]
16481	[1-134]	16534	[1-159]
16482	[1-93]	16535	[1-193]
16483	[1-94],[125-154]	16536	[1-213]
16484	[1-441]	16537	[1-194]
16485	[1-108]	16538	[1-185]
16486	[1-94],[125-154]	16539	[1-187]
16487	[1-92]	16540	[1-190]
16488	[1-568]	16541	[1-165]
16489	[1-297]	16542	[1-188]
16490	[1-419]	16543	[1-168]
16491	[1-297]	16544	[1-410]
16492	[1-298]	16545	[1-173]
16493	[1-189]	16546	[1-191]
16494	[1-296]	16547	[1-168]
16495	[1-297]	16548	[1-170]
16496	[1-298]	16549	[1-442]
16497	[1-513]	16550	[1-96],[179-235]
16498	[1-513]	16551	[1-96]
16499	[1-503]	16552	[1-95]
16500	[1-503]	16553	[1-95]
16501	[1-503]	16554	[1-44],[189-539]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
16555	[1-96]
16556	[1-95],[178-231]
16557	[1-96],[179-234]
16558	[1-95]
16559	[1-95],[178-233]
16560	[1-472]
16561	[1-903]
16562	[41-436]
16563	[37-75]
16564	[1-79]
16565	[1-222]
16567	[1-112]
16569	[1-161]
16570	[1-186]
16571	[134-333],[393-445]
16572	[1-461]
16573	[178-222]
16574	[1-410]
16575	[1-471]
16581	[1-256],[295-356]
16582	[1-382]
16584	[1-110]
16585	[1-447]
16586	[57-157]
16588	[228-381]
16589	[1-499]
16590	[1-421]
16591	[1-515]
16592	[1-506]
16593	[124-187]
16594	[1-62]
16595	[1-510]
16596	[1-422]
16597	[1-574]
16598	[1-355]
16599	[1-404]
16602	[1-275]
16603	[1-343]
16604	[1-468]
16605	[1-72]
16606	[1-399]
16607	[1-352]
16608	[1-348]
16609	[1-377]
16610	[1-224]
16611	[1-276]
16612	[1-440]
16613	[1-467]
16614	[466-523]
16615	[1-55],[410-439]
16616	[1-434]
16617	[1-298]
16618	[1-469]
16619	[1-111]
16620	[1-116]
16621	[1-96]
16622	[248-431]
16623	[1-60]
16624	[1-458]
16625	[1-488]
16626	[1-90],[178-225]
16628	[81-334]
16629	[209-325]
16630	[1-381]
16631	[1-340]
16632	[192-239]
16633	[1-99],[164-194]
16634	[1-182]
16635	[1-399]
16636	[1-109]
16637	[1-443]
16639	[1-367]
16640	[1-180]
16642	[1-464]
16643	[1-67]
16644	[1-348]
16645	[1-414]
16646	[1-293]
16647	[1-29]
16648	[1-466]
16649	[1-359]
16650	[1-381]
16651	[1-516]
16652	[1-436]
16653	[1-518]
16655	[1-367]
16656	[1-430]
16657	[1-405],[805-837]
16659	[1-457]
16660	[1-188]
16661	[1-475]
16662	[1-250]
16663	[1-187]
16664	[1-130]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
16665	[1-347]
16666	[1-488]
16667	[1-528]
16668	[1-472]
16669	[1-435]
16672	[455-479]
16674	[1-527]
16675	[1-395]
16676	[1-398],[440-609]
16677	[1-387]
16678	[1-394]
16679	[1-216]
16680	[1-113]
16681	[1-531]
16682	[1-571]
16685	[85-112]
16686	[85-146]
16688	[85-145]
16689	[85-120]
16690	[86-118]
16691	[85-145]
16692	[85-164]
16694	[85-111]
16695	[85-146]
16696	[86-127]
16698	[1-472]
16699	[357-498]
16700	[1-513]
16701	[1-155]
16702	[1-498]
16703	[1-39],[84-241]
16704	[1-481]
16706	[379-408]
16707	[1-48]
16710	[377-413]
16711	[377-430]
16712	[379-425]
16714	[378-407]
16715	[1-443]
16716	[155-260]
16717	[146-176]
16718	[1-527]
16719	[94-303]
16720	[1-488]
16722	[1-36],[98-214]
16723	[1-485]
16724	[1-458]
16725	[1-373]
16726	[1-481]
16727	[1-339]
16728	[1-492]
16729	[1-37],[291-381]
16731	[1-46]
16732	[1-48]
16733	[1-166],[202-316]
16734	[1-110]
16736	[1-298]
16737	[1-527]
16738	[103-128]
16740	[119-146]
16741	[1-292]
16742	[1-565]
16744	[1-432]
16745	[1-536]
16746	[1-157]
16747	[1-461]
16748	[1-474]
16749	[1-503]
16750	[1-530]
16751	[446-625],[753-794]
16753	[1-260]
16754	[1-137],[359-488]
16755	[49-431]
16757	[1-248]
16759	[102-180]
16760	[1-112],[154-191]
16761	[1-525]
16762	[1-514]
16763	[1-474]
16764	[1-247],[325-498]
16770	[1-358]
16771	[1-412]
16772	[1-542]
16774	[1-256]
16775	[1-115],[184-237]
16776	[1-33]
16777	[1-114],[183-253]
16778	[1-30],[109-135]
16779	[1-30],[110-185]
16780	[1-30],[109-134]
16781	[1-30],[109-157]
16782	[1-129]
16783	[1-30],[109-140]
16784	[1-30],[109-190]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
16785	[1-30],[109-139]
16786	[1-30],[109-140]
16787	[1-26]
16788	[1-26]
16789	[1-111]
16790	[106-480]
16792	[1-52]
16794	[1-482]
16795	[1-429]
16796	[1-44]
16797	[1-51]
16798	[1-108]
16799	[1-176]
16800	[1-134]
16801	[1-175]
16802	[1-175]
16803	[1-174]
16804	[1-175]
16805	[1-214]
16806	[1-241]
16807	[1-175]
16808	[1-207],[241-447]
16811	[1-528]
16812	[1-190]
16813	[1-266]
16814	[1-214]
16815	[1-55],[196-574]
16816	[1-34],[351-506]
16817	[1-455]
16820	[1-524]
16821	[1-559]
16822	[1-504]
16823	[310-498]
16824	[1-35],[207-238]
16825	[1-307]
16826	[1-296],[351-448]
16827	[1-319]
16828	[325-499]
16829	[1-476]
16831	[1-310]
16832	[1-349]
16833	[1-140]
16834	[1-141]
16835	[1-291]
16836	[1-267]
16837	[1-459]
16839	[1-526]
16840	[1-515]
16841	[1-343]
16842	[1-460]
16843	[1-109]
16844	[1-262]
16845	[1-501]
16846	[1-471]
16848	[1-432]
16849	[1-495]
16851	[1-843]
16852	[1-449]
16855	[1-181],[234-517]
16856	[1-275]
16857	[1-66],[211-478]
16859	[1-436]
16860	[1-419]
16861	[287-445]
16862	[182-236]
16863	[1-430]
16864	[1-57],[329-436]
16865	[1-400]
16866	[1-302]
16868	[1-122]
16869	[1-156]
16870	[1-168]
16871	[1-182]
16872	[1-179]
16873	[1-233]
16874	[1-461]
16878	[1-583]
16879	[1-209]
16880	[1-25]
16881	[1-602]
16882	[1-424]
16883	[1-313]
16885	[1-514]
16886	[1-268],[439-470]
16887	[1-566]
16890	[381-431]
16891	[1-69]
16894	[1-513]
16895	[43-496]
16896	[1-370]
16898	[63-120],[203-540]
16899	[33-337],[368-473]
16900	[1-681]
16901	[1-368]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
16902	[1-50],[89-576]
16903	[1-366]
16904	[1-73]
16905	[1-527]
16906	[1-431]
16907	[1-451]
16908	[1-449]
16909	[1-349]
16910	[1-40]
16911	[1-435]
16912	[1-98],[141-472]
16913	[1-96],[139-439]
16914	[1-449]
16915	[1-510]
16916	[1-193]
16917	[106-503]
16918	[1-445]
16919	[1-505]
16921	[1-491]
16922	[1-526]
16923	[1-531]
16924	[1-154]
16932	[215-272]
16933	[214-266]
16936	[213-269]
16940	[1-51]
16942	[216-243]
16946	[215-253]
16947	[1-528]
16950	[215-250]
16952	[216-242]
16954	[215-253]
16958	[216-242]
16965	[208-293]
16972	[216-243]
16973	[215-241]
16974	[215-244]
16975	[216-243]
16978	[215-253]
16981	[215-242]
16983	[213-277]
16986	[216-242]
16987	[215-253]
16988	[213-256]
16989	[215-283]
16990	[216-241]
16991	[215-254]
16993	[216-242]
16997	[216-242]
17000	[70-372]
17005	[216-241]
17008	[216-243]
17010	[213-241]
17011	[93-474]
17015	[216-242]
17016	[215-240]
17019	[215-254]
17022	[215-253]
17030	[216-242]
17032	[1-491]
17033	[215-254]
17039	[216-247]
17042	[216-242]
17043	[1-75],[158-487]
17046	[216-242]
17047	[215-241]
17048	[214-253]
17049	[215-270]
17053	[216-245]
17054	[1-500]
17056	[215-253]
17063	[215-253]
17064	[217-256]
17066	[216-242]
17067	[217-261]
17071	[217-241]
17073	[216-242]
17074	[215-253]
17076	[1-487]
17077	[215-253]
17084	[1-418]
17085	[1-249]
17086	[1-513]
17088	[1-308]
17089	[1-487]
17090	[1-370]
17091	[1-30]
17093	[1-508]
17094	[1-54]
17095	[185-235]
17096	[185-261]
17098	[1-72]
17099	[1-449]
17100	[1-710]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17101	[1-482]
17103	[1-434]
17104	[1-442]
17106	[1-92]
17107	[1-246],[326-477]
17108	[1-411]
17109	[1-332]
17110	[1-139]
17112	[1-184]
17113	[1-510]
17116	[1-136]
17117	[1-91]
17118	[1-59]
17119	[1-426]
17120	[1-374]
17121	[1-255],[370-471]
17122	[1-452]
17124	[1-426]
17125	[1-562]
17126	[120-173]
17127	[1-505]
17128	[1-379]
17129	[1-415]
17130	[1-547]
17133	[1-371]
17134	[1-510]
17135	[1-476]
17136	[1-474]
17137	[1-447]
17138	[1-346]
17139	[1-503]
17140	[1-374]
17142	[1-30]
17143	[1-169]
17144	[1-101]
17145	[1-144]
17146	[1-149]
17147	[1-147]
17148	[1-144]
17149	[1-146]
17150	[1-505]
17151	[1-149]
17152	[1-26]
17154	[1-498]
17155	[1-449]
17156	[1-43]
17157	[1-515]

Seq Id No.	Positions of preferred fragments
17158	[1-478],[534-576]
17159	[72-441]
17160	[75-502]
17162	[1-416]
17163	[1-520]
17165	[1-59]
17168	[1-473]
17169	[1-396]
17170	[1-506]
17171	[1-564]
17172	[1-431]
17173	[1-407]
17174	[1-347]
17175	[223-477]
17176	[1-853]
17177	[41-68]
17179	[1-571]
17180	[1-165]
17181	[1-433]
17182	[1-159]
17183	[1-109]
17184	[1-137]
17185	[1-110]
17186	[1-354]
17187	[1-339]
17188	[1-323]
17189	[1-491]
17190	[278-375]
17191	[1-450]
17192	[1-460],[492-527]
17193	[1-443]
17194	[1-519]
17195	[1-261]
17196	[1-348]
17197	[1-565]
17199	[1-430]
17201	[1-401]
17202	[1-364]
17203	[1-414]
17204	[1-398]
17205	[1-78],[235-369]
17206	[1-225],[258-465]
17207	[1-580]
17208	[1-450]
17209	[1-510]
17210	[1-478]
17211	[1-54]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17212	[103-447]
17213	[1-373]
17214	[1-423]
17215	[1-129],[251-404]
17216	[1-246],[389-439]
17217	[1-38],[264-432]
17219	[1-400]
17220	[1-136]
17221	[1-112],[173-565]
17222	[1-112],[173-571]
17223	[1-94],[154-362]
17225	[1-285]
17226	[1-462]
17227	[1-126]
17228	[1-377]
17229	[318-382]
17232	[1-391]
17233	[1-387]
17236	[1-76]
17239	[1-276]
17240	[1-324]
17241	[103-229],[272-455],[493-523]
17242	[1-329]
17243	[1-510]
17244	[1-468]
17246	[1-198],[236-318]
17247	[261-311]
17248	[1-199]
17249	[254-457]
17251	[1-37],[68-274]
17253	[1-560]
17254	[1-433]
17256	[1-26],[143-722]
17257	[379-447]
17260	[1-480]
17262	[1-536]
17263	[1-466]
17265	[1-489]
17266	[1-472]
17267	[1-334],[366-544]
17268	[1-25],[84-199],[237-287],[415-443],[478-555]
17269	[1-25],[84-394],[434-586]
17272	[173-264]
17274	[1-321]
17275	[1-473]
17277	[1-28]
17278	[1-486]
17279	[1-421]
17280	[1-524]
17281	[1-448]
17283	[68-111]
17284	[1-499]
17285	[62-512]
17286	[1-53]
17287	[1-246],[298-369]
17288	[1-510]
17289	[1-460]
17290	[1-559]
17291	[1-450]
17292	[1-415]
17293	[1-471]
17294	[1-403]
17295	[1-217]
17296	[1-344]
17297	[1-330]
17298	[1-488]
17299	[1-438]
17301	[61-93]
17302	[1-209]
17303	[1-235]
17304	[1-348]
17305	[1-456]
17306	[1-442]
17307	[129-223]
17308	[1-137]
17309	[51-149]
17313	[101-181]
17314	[1-471]
17315	[188-412]
17316	[1-520]
17318	[1-84]
17319	[1-173],[203-526]
17320	[1-250]
17321	[90-490]
17322	[90-222]
17323	[1-425]
17324	[1-498]
17325	[1-517]
17326	[1-396]
17327	[1-542]
17328	[1-77],[111-207],[247-441]
17329	[1-541]
17330	[1-334],[1375-1425]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17331	[1-346]
17332	[1-492]
17333	[1-447]
17334	[1-499]
17335	[1-437]
17336	[1-275],[304-411]
17337	[1-447]
17338	[1-169]
17339	[1-354],[384-481]
17340	[1-536]
17343	[1-301]
17344	[1-249]
17345	[1-341]
17346	[1-417]
17347	[1-347]
17348	[1-116],[224-251],[427-672]
17349	[1-333],[447-543]
17350	[233-257]
17352	[1-476]
17353	[313-414]
17354	[1-502]
17355	[1-402]
17356	[142-507]
17357	[1-291]
17358	[1-503]
17359	[1-482]
17360	[1-94],[126-483]
17361	[1-468]
17362	[1-136]
17363	[1-535]
17364	[1-416]
17365	[1-472]
17366	[1-87]
17367	[1-76],[105-287],[331-437]
17368	[1-460]
17370	[1-443]
17371	[162-250]
17372	[1-50]
17373	[1-502]
17375	[1-501]
17376	[1-52],[407-434]
17377	[1-441]
17378	[1-208],[420-504]
17379	[1-111]
17382	[1-148],[440-488]
17383	[1-317]
17384	[1-316]
17385	[52-149]
17386	[80-355],[400-481]
17388	[1-318]
17389	[1-304]
17390	[1-232]
17391	[1-28]
17392	[1-27]
17394	[1-579]
17395	[1-48]
17396	[113-464]
17398	[1-457]
17399	[157-532]
17400	[1-493]
17401	[1-35],[64-560]
17402	[1-33],[213-620]
17403	[1-412]
17407	[1-26]
17408	[1-375]
17410	[1-321]
17411	[1-398]
17412	[1-240]
17413	[1-223]
17414	[1-225]
17415	[1-228]
17416	[1-225]
17417	[1-225]
17418	[1-224]
17419	[1-225]
17420	[1-225]
17421	[1-225]
17422	[1-225]
17423	[1-224]
17425	[507-578]
17429	[1-249]
17431	[89-391]
17432	[1-427]
17433	[1-391]
17435	[1-448]
17436	[1-128],[239-353]
17437	[1-81]
17438	[1-507]
17439	[1-43],[212-447]
17440	[1-383]
17441	[193-404]
17442	[1-131]
17443	[1-349]
17444	[1-118]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17445	[1-471]
17446	[1-141]
17447	[1-148]
17448	[1-159]
17449	[1-140]
17450	[1-148]
17451	[1-153]
17452	[1-144]
17453	[1-131]
17454	[1-129]
17455	[1-130]
17456	[1-346]
17457	[1-140]
17458	[1-596]
17459	[1-478]
17460	[1-434]
17461	[1-454]
17462	[1-364]
17463	[1-477]
17464	[1-874]
17465	[80-147],[323-424]
17467	[144-176]
17468	[1-521]
17469	[1-29]
17470	[1-73]
17472	[1-113]
17474	[1-440]
17475	[1-339],[368-460]
17476	[1-318]
17477	[1-67]
17478	[1-55]
17479	[1-135],[333-536]
17480	[1-132],[278-416]
17481	[461-523]
17483	[1-33]
17484	[1-491]
17485	[1-470]
17486	[1-490]
17487	[1-415]
17488	[1-508],[538-612]
17489	[1-432]
17491	[1-362]
17492	[1-250]
17493	[1-115],[144-382]
17494	[1-467]
17495	[1-407]
17496	[1-483]
17497	[1-281]
17498	[1-521]
17499	[1-403]
17502	[67-137]
17503	[67-126]
17504	[1-492]
17506	[1-92]
17507	[1-530]
17508	[1-47],[402-446]
17509	[1-514]
17510	[1-120]
17511	[1-522]
17512	[1-546]
17513	[181-483]
17515	[144-490]
17516	[1-444]
17517	[1-492]
17518	[1-578]
17519	[1-512]
17520	[1-104]
17521	[1-567]
17522	[1-561]
17524	[109-160]
17525	[1-580]
17526	[1-514]
17527	[1-487]
17528	[1-209]
17530	[1-425]
17532	[1-236]
17533	[1-349]
17534	[1-485]
17535	[1-243]
17536	[1-352]
17539	[1-544]
17540	[1-394]
17542	[1-97],[172-481]
17543	[1-400]
17544	[1-468]
17546	[1-502]
17547	[1-293]
17548	[412-437]
17549	[37-405]
17550	[1-460]
17551	[1-393]
17553	[1-432]
17555	[1-378]
17558	[1-126],[316-369]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
17559	[1-250]	17619	[1-192]
17560	[1-822]	17620	[1-462]
17561	[1-424]	17621	[1-597]
17562	[1-433]	17622	[1-33]
17563	[1-40],[82-260]	17624	[1-81],[219-243]
17564	[1-435]	17625	[1-81]
17565	[1-284]	17626	[1-81],[219-279]
17566	[1-224],[321-390]	17627	[1-367]
17567	[1-325]	17629	[1-388]
17568	[1-442]	17630	[1-381]
17569	[1-111],[141-247]	17631	[1-443]
17571	[1-283]	17632	[1-145]
17572	[1-213]	17633	[65-510]
17573	[1-70]	17634	[1-471]
17574	[1-1157]	17635	[1-226]
17576	[1-421]	17636	[162-461]
17577	[1-554]	17637	[1-340]
17578	[130-183]	17638	[215-518]
17579	[105-253]	17639	[1-534]
17581	[1-556]	17640	[1-667]
17582	[1-146],[176-224]	17641	[284-351]
17586	[1-379]	17642	[1-459]
17587	[1-472]	17643	[1-515]
17588	[1-480]	17645	[1-64]
17589	[1-194]	17646	[1-537]
17590	[1-364]	17647	[1-501]
17592	[1-475]	17648	[1-159]
17593	[341-472]	17649	[1-140]
17594	[80-116],[287-344]	17650	[1-593]
17595	[1-503]	17651	[1-604]
17597	[1-412]	17652	[1-333]
17598	[1-385]	17653	[1-98]
17599	[1-639]	17654	[1-322]
17600	[1-487]	17655	[1-396]
17601	[1-41],[278-425]	17656	[1-487]
17602	[1-329]	17657	[100-170]
17604	[1-352]	17659	[1-475]
17605	[65-435]	17660	[1-314]
17606	[1-504]	17663	[1-399]
17608	[223-261]	17664	[1-214],[245-404]
17610	[223-269]	17665	[1-200]
17611	[1-345]	17666	[1-509]
17612	[1-204]	17667	[1-483]
17614	[1-442]	17668	[1-227]
17615	[50-99]	17669	[1-255]
17616	[232-458]	17670	[1-286]
17618	[1-476]	17671	[1-493]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17672	[195-382]
17673	[1-500]
17674	[1-495]
17675	[1-435]
17676	[1-475]
17681	[64-497]
17682	[64-510]
17683	[1-160]
17684	[1-139]
17685	[1-48]
17686	[1-56]
17688	[1-491]
17689	[1-476]
17690	[1-140],[172-439]
17691	[1-104],[143-348]
17692	[1-447]
17693	[1-446]
17694	[1-32]
17695	[1-428]
17696	[1-59]
17697	[1-249]
17698	[1-245]
17699	[1-153]
17700	[1-531]
17701	[1-203]
17703	[235-387]
17705	[1-354],[390-474]
17706	[1-143]
17707	[1-536]
17708	[1-449]
17709	[1-404]
17711	[1-489]
17712	[1-566]
17713	[1-220]
17714	[1-483]
17717	[1-32]
17719	[1-33]
17720	[1-93]
17723	[1-35]
17725	[1-497]
17726	[1-60]
17727	[1-406]
17731	[1-438]
17732	[1-33]
17734	[1-486]
17735	[1-499]
17736	[1-68]
17737	[1-382]
17738	[1-512]
17739	[1-516]
17740	[1-491]
17741	[1-362]
17742	[1-502]
17744	[1-149]
17745	[1-432]
17746	[1-459]
17747	[1-97]
17748	[1-401]
17749	[1-30]
17750	[1-206]
17751	[1-495]
17753	[1-163],[280-477]
17756	[1-211],[332-380]
17757	[1-286]
17758	[1-216],[402-517]
17759	[1-236]
17760	[1-495]
17761	[1-522]
17762	[1-384]
17763	[1-490]
17765	[1-123],[311-353]
17766	[1-44],[232-274]
17767	[1-298]
17768	[1-210]
17769	[1-510]
17770	[1-491]
17771	[1-455]
17772	[1-418]
17773	[1-486]
17775	[1-79]
17776	[1-285]
17777	[1-44]
17778	[1-458]
17781	[1-348]
17782	[1-392]
17783	[1-469]
17784	[1-146]
17785	[1-481]
17787	[1-483]
17788	[1-433]
17789	[282-343]
17791	[73-501]
17792	[177-383]
17793	[86-517]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17794	[1-253]
17795	[1-419]
17796	[1-364]
17797	[32-504]
17798	[1-50]
17799	[1-525]
17800	[1-448]
17801	[1-506]
17802	[1-459]
17803	[1-413]
17804	[1-477]
17805	[1-426]
17806	[1-365]
17807	[1-314]
17809	[1-441]
17810	[1-66],[297-374]
17811	[318-435]
17812	[1-203]
17813	[1-434]
17814	[1-481]
17815	[1-573]
17816	[1-384]
17817	[93-123]
17819	[1-355]
17821	[1-269]
17822	[160-204]
17823	[30-81]
17824	[169-211]
17825	[1-246]
17826	[168-193]
17827	[1-444]
17828	[1-140],[178-248]
17829	[1-464]
17831	[1-388]
17832	[1-396]
17833	[211-279],[353-445]
17834	[1-515]
17835	[1-364]
17836	[1-377]
17837	[1-308]
17838	[1-451]
17839	[1-179]
17840	[383-421]
17841	[1-416]
17842	[1-428]
17843	[1-186]
17844	[1-432]

Seq Id No.	Positions of preferred fragments
17845	[1-257]
17847	[202-343]
17848	[1-86]
17850	[1-347]
17851	[1-355]
17853	[1-562]
17854	[1-711]
17855	[1-182]
17856	[399-436]
17857	[1-405]
17859	[1-397]
17860	[1-307]
17861	[1-344]
17862	[1-209]
17863	[1-127]
17864	[1-395]
17866	[1-361]
17867	[1-408]
17868	[1-33]
17871	[1-283]
17872	[1-275]
17873	[1-470]
17874	[1-379]
17875	[1-357]
17876	[1-442]
17877	[1-201]
17878	[1-512]
17879	[1-420]
17880	[1-114]
17881	[1-504]
17882	[1-636]
17883	[1-472]
17884	[1-386]
17885	[1-432]
17886	[1-508]
17888	[317-429]
17889	[1-478]
17890	[1-462]
17891	[1-183]
17892	[1-55]
17893	[1-399]
17897	[332-448]
17898	[1-484]
17899	[1-501]
17900	[1-288]
17901	[1-402]
17902	[1-380]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
17903	[1-483]
17904	[1-258]
17905	[1-453]
17906	[1-435]
17907	[1-299]
17908	[1-464]
17909	[1-295]
17910	[1-447]
17912	[1-500]
17913	[1-117]
17914	[1-107]
17915	[1-481]
17916	[1-546]
17917	[1-512]
17918	[1-293]
17919	[1-207]
17920	[1-215]
17921	[1-246]
17922	[1-218]
17923	[1-266]
17924	[1-241]
17925	[1-262]
17926	[1-259]
17927	[1-270]
17928	[1-217]
17929	[1-235]
17930	[1-225]
17931	[1-248]
17932	[1-225]
17933	[1-226]
17934	[1-218]
17935	[1-228]
17936	[1-241]
17937	[1-242]
17938	[1-247]
17939	[1-243]
17940	[1-243]
17941	[1-237]
17942	[1-236]
17943	[1-248]
17944	[1-214]
17945	[1-245]
17946	[1-216]
17947	[1-225]
17948	[1-229]
17949	[1-219]
17950	[1-520]
17951	[1-444]
17952	[44-127],[156-489]
17953	[1-495]
17954	[1-437]
17956	[1-219]
17957	[90-487]
17958	[1-400]
17959	[1-440]
17960	[437-478]
17961	[1-427]
17962	[1-43]
17963	[1-43],[108-364]
17964	[1-43],[108-360]
17965	[1-43],[108-378]
17966	[1-43],[108-233]
17967	[1-468]
17969	[1-412]
17970	[1-232]
17971	[1-68]
17972	[1-336]
17973	[1-503]
17974	[1-472]
17975	[1-324]
17976	[1-480]
17977	[1-435]
17978	[1-387]
17979	[1-508]
17980	[1-510]
17981	[1-464]
17982	[1-36],[94-442]
17983	[1-178]
17984	[1-532]
17985	[1-156],[185-456]
17986	[1-63]
17987	[1-138]
17989	[1-381]
17991	[1-387]
17993	[1-155],[184-439]
17995	[1-461]
17996	[1-352]
17997	[214-287]
17998	[1-147]
17999	[1-317]
18000	[1-268]
18001	[1-372]
18002	[1-514]
18003	[1-293]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18004	[1-27],[187-510]
18005	[1-302]
18006	[107-322]
18007	[1-431]
18008	[1-484]
18009	[1-472]
18010	[1-198]
18011	[1-497]
18012	[1-189]
18013	[1-375]
18015	[1-484]
18016	[1-442]
18017	[1-71]
18018	[1-167]
18019	[1-174]
18020	[1-278]
18021	[1-502]
18022	[1-59]
18025	[1-341]
18026	[1-451]
18027	[1-59],[89-181]
18028	[1-59],[89-155]
18029	[1-425]
18031	[1-521]
18032	[1-424]
18033	[1-474]
18034	[1-191]
18035	[1-206]
18036	[1-381]
18037	[1-208]
18038	[1-67]
18039	[1-145]
18040	[1-389]
18041	[1-245]
18042	[1-406]
18043	[1-462]
18045	[1-86]
18046	[1-433]
18047	[206-400]
18048	[1-106]
18049	[1-318]
18050	[1-363]
18051	[1-235]
18052	[1-454]
18053	[1-477]
18054	[1-179]
18055	[1-74]
18056	[98-125]
18058	[1-153]
18060	[1-552]
18062	[1-195]
18063	[1-174]
18064	[1-443]
18065	[1-109]
18066	[1-160]
18067	[91-393]
18068	[1-162]
18069	[1-54]
18070	[1-427]
18071	[1-160]
18072	[130-250]
18073	[1-72],[361-518]
18074	[1-49]
18075	[1-120]
18076	[1-209]
18077	[144-304]
18078	[1-422]
18079	[1-33]
18080	[1-458]
18081	[1-512]
18083	[63-379],[408-475]
18084	[1-114]
18085	[1-41],[87-135]
18086	[63-273],[307-456]
18088	[1-407]
18089	[1-259]
18090	[1-87]
18091	[63-270]
18092	[1-480]
18094	[1-473]
18095	[1-98]
18096	[148-193]
18097	[1-189]
18098	[1-160],[283-411]
18100	[1-312]
18101	[41-412]
18102	[1-63]
18103	[64-98]
18104	[1-64]
18105	[1-104]
18107	[1-620]
18108	[1-825]
18109	[1-96]
18110	[1-553]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18111	[1-482]
18112	[1-106],[300-424]
18113	[1-507]
18115	[1-497]
18116	[1-106]
18117	[1-149]
18119	[1-346]
18120	[1-403]
18121	[1-493]
18122	[1-62]
18123	[1-101],[182-366]
18124	[1-69]
18125	[1-372]
18127	[1-142],[327-488]
18128	[1-169],[252-292]
18129	[1-486]
18130	[1-192]
18131	[1-314]
18132	[1-191]
18133	[1-394]
18134	[42-68]
18135	[1-174],[301-387]
18136	[102-143]
18137	[69-445]
18138	[1-410]
18139	[331-356]
18140	[1-72]
18143	[332-375]
18149	[330-362]
18151	[330-365]
18153	[330-357]
18155	[330-360]
18160	[333-361]
18168	[330-356]
18170	[397-423]
18171	[1-46],[328-357]
18172	[1-86]
18173	[1-331]
18175	[1-178]
18177	[1-325]
18178	[337-498]
18179	[1-353]
18180	[1-364]
18181	[1-494]
18182	[1-363]
18183	[1-333]
18184	[1-196]
18185	[1-203]
18189	[1-249]
18190	[1-492]
18191	[1-493]
18192	[1-296]
18193	[1-495]
18194	[1-420]
18195	[1-266]
18196	[508-537]
18198	[1-436]
18199	[142-243]
18210	[1-487]
18212	[1-442]
18213	[1-263]
18214	[33-419]
18218	[1-555]
18219	[1-466]
18221	[1-254]
18222	[1-430]
18223	[1-505]
18224	[1-343]
18226	[1-538]
18227	[1-546]
18228	[1-409]
18229	[1-461]
18231	[211-395]
18232	[1-71]
18235	[1-418]
18236	[1-337]
18237	[1-427]
18238	[1-457]
18239	[1-453]
18241	[1-402]
18242	[1-413]
18243	[1-396]
18244	[1-509]
18246	[1-380],[441-482]
18248	[1-148]
18249	[1-383]
18250	[1-472]
18251	[1-581]
18252	[1-414]
18253	[1-429]
18254	[1-513]
18255	[1-407]
18256	[1-153]
18257	[1-438]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18258	[1-341]
18259	[1-496]
18260	[1-467]
18261	[1-577]
18262	[1-430]
18263	[1-445]
18264	[1-551]
18265	[1-513]
18266	[1-546]
18267	[105-476]
18268	[76-106]
18269	[1-93]
18270	[1-270]
18271	[1-385]
18272	[1-318]
18273	[1-387]
18274	[1-108]
18275	[1-496],[528-557]
18276	[1-453]
18277	[1-204]
18278	[65-371]
18279	[1-365]
18280	[1-397]
18282	[1-438]
18283	[1-250],[534-559]
18285	[1-64]
18286	[1-53]
18287	[78-151]
18288	[1-433]
18289	[1-219]
18290	[1-166],[326-368]
18291	[1-184]
18292	[1-354]
18293	[39-159]
18294	[1-400]
18295	[162-340]
18296	[1-465]
18297	[1-426]
18298	[1-128]
18299	[1-73],[399-425]
18300	[1-494]
18302	[1-108],[161-200]
18303	[1-519]
18304	[1-535]
18305	[1-512]
18306	[1-438]
18308	[1-100],[457-503]

Seq Id No.	Positions of preferred fragments
18309	[1-426]
18310	[261-380]
18311	[1-168]
18312	[1-444]
18313	[1-452]
18314	[1-422]
18315	[1-362]
18316	[1-472]
18318	[1-301]
18319	[1-590]
18320	[1-58],[115-478]
18321	[1-154]
18322	[1-436]
18323	[1-517]
18325	[1-402]
18327	[1-139]
18328	[1-242]
18329	[1-276]
18330	[1-261]
18332	[1-191]
18333	[1-173]
18334	[1-98]
18335	[196-473]
18337	[1-552]
18338	[1-237]
18340	[1-161],[562-592]
18341	[1-413]
18342	[1-72]
18343	[1-60]
18344	[1-115]
18345	[1-33],[453-478]
18347	[1-53]
18348	[1-51],[370-440]
18349	[1-71]
18350	[1-544]
18351	[1-465]
18352	[1-464]
18353	[1-238]
18354	[1-495]
18355	[1-503]
18356	[1-518]
18359	[1-424]
18360	[1-404]
18364	[325-389]
18367	[168-203]
18372	[1-285]
18373	[1-279]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18374	[1-58]
18375	[103-172]
18376	[105-202]
18378	[1-460]
18379	[1-55],[173-437]
18380	[1-492]
18381	[1-498]
18382	[149-250]
18384	[1-103],[134-159]
18385	[1-97]
18388	[1-450]
18389	[1-485]
18390	[1-166]
18391	[1-95]
18392	[1-427]
18393	[1-388]
18395	[1-392]
18396	[1-348]
18397	[137-258]
18398	[199-448]
18399	[1-439]
18401	[1-96]
18402	[1-356]
18403	[1-137]
18404	[1-391]
18405	[1-533]
18406	[1-113]
18407	[1-187]
18408	[1-503]
18409	[1-315]
18410	[1-44]
18411	[1-369]
18412	[1-50]
18413	[159-232]
18415	[1-227],[273-367]
18416	[1-377]
18417	[1-522]
18418	[1-36],[69-483]
18419	[1-547]
18421	[1-228]
18422	[1-102]
18423	[1-80]
18424	[1-412]
18425	[387-478]
18427	[1-64]
18428	[1-186]
18429	[1-509]
18430	[1-427]
18431	[1-93]
18432	[78-115]
18433	[78-134]
18434	[78-137]
18438	[1-61]
18440	[1-230]
18441	[54-464]
18442	[1-61],[92-142],[181-518]
18443	[43-377]
18444	[38-169],[210-387]
18445	[1-275]
18446	[1-278]
18447	[101-216]
18448	[1-396]
18449	[1-425]
18450	[159-353]
18451	[159-353]
18452	[159-260]
18453	[1-215]
18455	[1-215]
18456	[1-215]
18458	[1-148]
18460	[1-338]
18461	[1-107]
18462	[1-56]
18463	[1-462]
18465	[1-62],[220-287]
18466	[1-97],[166-398]
18467	[1-392]
18469	[1-439]
18470	[1-412]
18472	[1-440]
18473	[1-163]
18474	[1-426]
18476	[1-324]
18477	[1-237]
18478	[85-478]
18479	[1-46]
18480	[1-46]
18481	[1-49]
18482	[1-437]
18483	[1-353]
18484	[1-102]
18485	[1-472]
18486	[1-577]
18487	[1-54],[143-493]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18488	[1-199]
18489	[1-200],[230-435]
18490	[1-405]
18491	[1-680]
18492	[1-553]
18493	[164-216]
18494	[55-101],[290-407]
18495	[346-384]
18496	[46-92]
18497	[1-469]
18498	[1-250]
18500	[1-508]
18501	[1-476]
18502	[1-473]
18503	[1-445]
18504	[1-289]
18505	[1-554]
18506	[165-446]
18507	[448-563]
18509	[449-505]
18510	[447-510]
18512	[1-564]
18513	[1-450]
18514	[1-523]
18515	[1-190]
18516	[1-541]
18517	[1-259]
18518	[1-513]
18519	[1-259],[371-416]
18520	[1-401],[463-487]
18521	[1-401]
18522	[1-400]
18523	[1-403]
18524	[1-406]
18525	[1-399]
18526	[1-402]
18527	[1-404]
18528	[1-400]
18529	[1-432]
18530	[1-393]
18531	[1-400]
18532	[1-407],[469-493]
18533	[1-404],[466-492]
18534	[1-401]
18535	[1-59]
18536	[1-401]
18537	[1-403]
18538	[1-360]
18539	[1-400]
18540	[1-401]
18541	[1-425]
18542	[1-400]
18543	[1-409]
18544	[1-416]
18545	[1-401]
18546	[1-402]
18547	[1-434]
18548	[1-509]
18549	[36-61],[255-563]
18550	[164-457]
18552	[1-472]
18553	[1-274]
18554	[1-121]
18555	[1-509]
18556	[1-329],[484-567]
18557	[1-467]
18558	[1-513]
18559	[1-515]
18560	[1-511]
18561	[1-377]
18562	[1-541]
18563	[1-378]
18564	[1-427]
18567	[1-495]
18568	[1-414]
18569	[1-352]
18570	[1-359]
18571	[1-397]
18572	[1-359]
18573	[1-388]
18575	[1-242]
18576	[39-160]
18577	[1-464]
18578	[1-494]
18580	[53-266]
18581	[38-507]
18582	[118-364]
18583	[1-231],[274-434]
18585	[80-209]
18586	[1-67]
18587	[1-180]
18588	[1-193]
18590	[1-498]
18593	[1-288]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18594	[1-450]
18595	[52-510]
18596	[1-422]
18597	[1-437]
18598	[1-406]
18599	[1-64],[125-531]
18600	[1-516]
18601	[1-249],[279-496]
18602	[1-314]
18603	[1-433]
18604	[1-419]
18605	[1-176]
18606	[1-79]
18608	[1-469]
18612	[1-346]
18613	[354-480]
18614	[1-410]
18615	[1-269]
18616	[1-517]
18617	[1-500]
18618	[1-508]
18619	[1-483]
18620	[1-63]
18621	[1-492]
18622	[1-470]
18623	[1-354]
18624	[1-28]
18625	[1-28]
18628	[1-474]
18630	[1-144]
18631	[118-222]
18633	[369-442]
18635	[37-104]
18636	[1-433]
18637	[1-489]
18638	[279-332]
18639	[274-405]
18641	[1-540]
18642	[151-176],[283-313]
18643	[1-459]
18645	[105-145],[188-241]
18647	[72-335]
18648	[171-282]
18649	[1-516]
18650	[1-263]
18651	[1-229],[452-479]
18652	[57-507]
18657	[1-727]
18658	[1-180]
18659	[1-431]
18661	[1-209]
18662	[1-501]
18663	[1-225]
18664	[37-389]
18665	[1-348]
18666	[1-83]
18667	[1-83]
18668	[1-512]
18670	[1-463]
18671	[394-421]
18674	[168-270]
18675	[1-493]
18676	[1-179]
18677	[1-405]
18678	[104-357]
18679	[1-474]
18680	[1-498]
18681	[1-501]
18682	[1-458]
18683	[1-377]
18684	[1-354]
18685	[309-475]
18686	[1-360]
18687	[1-510]
18688	[1-503]
18689	[1-399]
18690	[1-368]
18691	[1-70]
18692	[1-373]
18701	[56-99]
18706	[1-525]
18718	[1-62]
18720	[146-235]
18721	[1-341]
18726	[1-486]
18733	[1-28]
18735	[31-374]
18740	[31-406]
18747	[1-51]
18749	[1-89]
18750	[63-93]
18752	[124-365]
18753	[1-50]
18759	[278-312],[389-426]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18765	[255-376]
18773	[432-457]
18779	[1-390]
18791	[1-527]
18792	[1-466]
18793	[1-510]
18794	[1-453]
18795	[1-348]
18796	[1-348]
18797	[120-444]
18798	[1-482]
18799	[1-403]
18800	[1-506]
18801	[1-600]
18805	[1-490]
18806	[1-447]
18807	[1-447]
18810	[1-74]
18811	[1-87]
18812	[1-506]
18813	[1-484]
18814	[208-250]
18815	[1-509]
18816	[1-561]
18817	[1-46],[78-487]
18818	[1-504]
18819	[1-533]
18820	[1-440]
18821	[1-593]
18825	[1-490]
18827	[1-433]
18830	[1-282]
18831	[1-275],[486-522]
18832	[1-54],[453-522]
18835	[1-532]
18836	[1-464]
18837	[1-188]
18838	[1-75]
18839	[1-374]
18840	[1-439]
18841	[1-452]
18842	[1-225]
18843	[1-438]
18844	[97-141]
18845	[1-374]
18846	[1-401]
18848	[1-416]
18849	[1-489]
18851	[1-357]
18852	[1-360]
18853	[1-360]
18854	[1-377]
18855	[1-382]
18856	[1-383]
18857	[1-427]
18858	[1-391]
18859	[1-485]
18860	[1-335]
18861	[1-453]
18862	[1-501]
18863	[1-353]
18866	[1-177]
18867	[1-446]
18869	[1-716]
18870	[1-250]
18871	[1-238]
18872	[1-269]
18873	[1-300]
18874	[1-490]
18875	[1-482]
18876	[119-425]
18877	[1-501]
18878	[1-476]
18879	[1-319]
18880	[1-463],[498-563]
18881	[1-460]
18882	[1-461]
18883	[1-485]
18884	[1-170],[209-239],[301-395]
18885	[253-308],[909-936]
18887	[1-49],[110-138]
18889	[1-449]
18890	[1-467]
18891	[1-170]
18892	[1-524]
18893	[183-250]
18894	[1-409]
18895	[1-426]
18898	[1-147]
18899	[1-35]
18900	[1-47]
18901	[1-507]
18903	[1-479]
18904	[256-304]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
18905	[1-51]
18906	[1-155]
18907	[1-155]
18909	[1-51]
18910	[1-91]
18912	[1-52]
18914	[1-51]
18916	[1-117]
18917	[1-506]
18918	[1-215]
18919	[1-485]
18920	[1-52]
18921	[1-411]
18922	[1-52]
18923	[1-52]
18925	[1-51]
18926	[1-52]
18928	[1-51]
18929	[1-53]
18930	[1-128]
18931	[1-355]
18932	[1-330]
18934	[1-395]
18935	[226-281]
18936	[60-133]
18938	[1-197]
18939	[179-351]
18940	[1-424]
18941	[75-469]
18942	[67-325]
18943	[1-149]
18944	[1-438]
18945	[133-444],[488-524]
18948	[1-519]
18949	[1-469]
18950	[1-468]
18951	[1-519]
18952	[1-150]
18953	[1-73]
18954	[445-470]
18956	[1-790]
18957	[1-88],[415-517]
18958	[1-124],[452-1030]
18959	[1-38]
18960	[1-324]
18961	[1-311],[340-379]
18962	[1-311],[340-403]

Seq Id No.	Positions of preferred fragments
18963	[1-311],[340-384]
18964	[1-527]
18965	[1-458]
18966	[1-516]
18968	[1-496]
18969	[1-569]
18970	[1-477]
18971	[1-566]
18972	[1-457]
18973	[1-415]
18974	[1-474]
18975	[1-449]
18977	[1-146],[228-280]
18978	[1-659]
18979	[1-451]
18980	[1-485]
18982	[1-493]
18983	[1-378]
18984	[1-77]
18985	[168-327]
18986	[1-433]
18987	[57-308]
18988	[1-129]
18989	[1-478]
18990	[1-460]
18991	[1-79]
18992	[1-506]
18993	[1-377]
18994	[1-367]
18995	[1-188]
18996	[1-543]
18997	[1-347]
18998	[1-272]
19000	[1-190]
19001	[1-199]
19002	[1-463],[502-687]
19003	[1-314]
19004	[1-74]
19005	[1-407]
19006	[1-701]
19007	[1-508]
19008	[1-478]
19009	[1-508]
19010	[1-436]
19011	[1-481]
19017	[1-484]
19019	[1-428]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
19021	[1-325]
19022	[1-490]
19025	[1-501]
19026	[1-293]
19027	[82-470]
19028	[1-66],[111-440]
19029	[1-550]
19030	[57-98],[214-470]
19033	[1-30]
19040	[1-106]
19041	[1-70]
19042	[1-325],[357-392]
19045	[1-301]
19046	[1-462]
19047	[1-326]
19048	[1-417]
19049	[1-537]
19050	[1-518]
19051	[1-508]
19052	[1-497]
19053	[1-378],[417-450]
19054	[76-482]
19056	[1-337]
19057	[203-465]
19058	[1-478]
19059	[1-468]
19060	[170-384]
19061	[195-403]
19062	[1-500]
19063	[1-472]
19064	[1-515]
19065	[1-396]
19066	[1-362]
19067	[1-381]
19068	[1-37]
19070	[1-501]
19071	[1-436]
19072	[1-412]
19073	[1-426]
19074	[1-78],[207-454]
19077	[1-518]
19078	[112-423]
19079	[1-387]
19080	[1-586]
19083	[1-481]
19084	[1-429]
19085	[1-474]

Seq Id No.	Positions of preferred fragments
19086	[1-192]
19087	[1-94]
19088	[1-471]
19089	[1-550]
19090	[1-469]
19091	[1-415]
19092	[1-839]
19093	[1-463]
19094	[1-516]
19095	[1-484]
19096	[1-356]
19097	[1-203]
19098	[1-348]
19099	[1-351]
19100	[1-184]
19102	[1-444]
19103	[1-439]
19104	[1-556]
19105	[1-422]
19106	[1-503]
19107	[1-168]
19108	[1-548]
19109	[427-515]
19110	[1-473]
19111	[1-452]
19112	[1-480]
19113	[1-394]
19114	[1-354]
19117	[1-493]
19118	[1-387]
19119	[1-449]
19120	[268-456]
19121	[1-203]
19122	[1-439]
19123	[1-369]
19124	[1-427]
19125	[279-448]
19126	[1-84],[270-406]
19127	[1-514]
19128	[1-469]
19130	[1-517]
19132	[1-136]
19133	[1-500]
19134	[1-429]
19135	[1-682]
19136	[32-484]
19137	[1-142]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
19138	[1-554]
19139	[32-466]
19141	[1-355]
19142	[1-400]
19143	[1-196]
19144	[1-249]
19146	[372-465]
19147	[1-480]
19150	[1-515]
19153	[1-419]
19159	[1-453]
19160	[314-373]
19161	[1-495]
19162	[1-432],[533-623]
19163	[1-505]
19164	[1-435]
19165	[1-497]
19166	[1-150]
19167	[1-369]
19168	[1-207]
19169	[1-144]
19170	[1-361],[391-434]
19171	[1-151]
19172	[1-170]
19173	[1-162]
19174	[1-532]
19175	[1-519]
19176	[1-658]
19177	[1-303]
19178	[1-369]
19179	[1-500]
19180	[1-293]
19181	[118-558]
19182	[1-471]
19183	[1-563]
19186	[1-513]
19187	[1-464]
19188	[1-68],[108-472]
19189	[1-473]
19190	[1-518]
19191	[1-255]
19192	[1-449]
19193	[1-214]
19194	[1-550]
19195	[1-165]
19196	[1-444]
19197	[1-130]

Seq Id No.	Positions of preferred fragments
19199	[1-315]
19201	[1-424]
19203	[1-467]
19204	[1-420]
19205	[1-468]
19206	[1-236]
19208	[1-72]
19209	[1-299]
19211	[1-208]
19212	[1-260]
19214	[1-164]
19215	[1-146]
19216	[1-58]
19217	[1-103]
19218	[1-352]
19220	[52-541]
19221	[1-467]
19222	[1-464]
19223	[328-371]
19224	[1-84]
19225	[1-321]
19226	[1-221]
19228	[1-469]
19230	[1-444]
19231	[339-419]
19232	[1-338]
19233	[1-334]
19234	[113-196]
19235	[1-505]
19236	[1-401],[442-513]
19238	[1-467]
19239	[38-401]
19240	[1-317]
19241	[1-369]
19244	[1-453]
19245	[1-136]
19247	[1-522]
19248	[1-492]
19249	[1-490]
19250	[1-44],[294-477]
19252	[241-347]
19253	[1-480]
19255	[1-419]
19256	[1-375]
19257	[1-177]
19258	[1-287]
19259	[1-266]

TABLE IVa
(Novelty:95%)

Seq Id No.	Positions of preferred fragments
19260	[1-58]
19261	[1-113]
19262	[1-329]
19263	[1-72]
19264	[1-348]
19266	[1-330]
19267	[1-319]
19268	[1-313]
19269	[1-160]
19270	[1-90]
19271	[1-110]
19272	[1-132]
19273	[1-101]
19274	[1-265]
19275	[1-325]
19276	[1-171]
19277	[1-90]
19278	[1-182]
19279	[1-59]
19280	[1-353]
19281	[1-107]
19282	[1-200],[261-377]
19283	[1-270]
19284	[1-348]
19285	[1-338]
19286	[1-63]
19288	[1-101]
19289	[1-108]
19290	[1-101]
19291	[1-108]
19292	[96-496]
19293	[1-108]
19294	[1-63]
19295	[1-108]
19296	[1-108]
19298	[1-108]
19299	[1-108]
19300	[1-108]
19303	[1-489]
19304	[1-108]
19306	[1-29]
19308	[1-205]
19309	[1-102]
19311	[1-108]
19312	[1-108]
19313	[1-109]
19314	[1-385]
19315	[1-101]
19316	[1-108]
19317	[1-169]
19318	[1-63]
19319	[1-133]
19321	[1-108]
19322	[1-119]
19325	[1-390]
19326	[1-168]
19327	[1-387]
19328	[1-169]
19329	[1-169]
19330	[1-108]
19331	[1-101]
19332	[1-404]
19334	[1-499]
19335	[1-63]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
24	[1-342]
25	[1-365]
26	[1-557]
27	[1-514]
29	[1-167]
30	[1-368]
31	[1-506]
32	[1-44]
33	[1-479]
34	[65-397]
35	[1-126],[298-386]
36	[1-454]
37	[1-172],[319-482]
38	[1-491]
39	[1-678]
41	[1-442]
42	[1-425]
43	[1-512]
44	[1-339]
45	[1-544]
46	[1-484]
47	[1-495]
48	[1-535]
49	[1-432]
50	[1-410]
51	[1-465]
52	[1-547]
54	[1-505]
55	[1-546]
56	[1-507]
57	[1-480]
58	[1-392]
59	[1-273]
60	[1-273]
61	[33-273]
62	[1-256]
63	[1-343]
65	[1-174]
66	[1-481]
67	[1-478]
68	[1-323]
69	[1-443]
70	[1-473]
71	[1-329]
72	[1-488]
73	[169-268]
74	[1-417]
75	[1-420]
76	[1-486]
77	[1-436]
78	[1-793]
79	[1-443]
80	[1-308]
81	[210-323]
82	[1-570]
83	[156-393]
84	[1-461]
85	[1-244],[358-468]
86	[1-516]
87	[1-674]
88	[1-402]
89	[1-473]
90	[1-474]
91	[1-97],[411-490]
92	[1-586]
93	[1-311]
94	[1-452]
95	[1-326]
96	[1-383]
97	[1-672]
98	[1-451]
99	[1-30]
100	[1-498]
101	[1-504]
102	[1-248]
103	[1-351]
104	[1-356]
105	[1-278]
106	[1-487]
107	[1-492]
108	[1-376]
109	[1-500]
110	[1-570]
111	[1-584]
112	[1-417]
113	[1-402]
114	[1-525]
115	[1-480]
116	[1-496]
117	[1-623]
118	[1-497]
119	[1-542]
120	[1-453]
121	[1-466]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
122	[1-213]	169	[1-148],[229-490]
123	[1-465]	170	[1-542]
124	[1-488]	171	[1-528]
125	[1-493]	172	[1-450]
126	[1-489]	173	[1-599]
127	[1-463]	174	[1-514]
128	[1-554]	175	[1-286]
129	[1-180],[421-467]	176	[1-501]
130	[1-457]	177	[1-31]
131	[1-392]	178	[1-542]
132	[1-477]	179	[1-303]
133	[1-252]	180	[1-504]
134	[1-422]	181	[1-35],[146-320],[444-542]
135	[1-462],[498-570]	182	[1-509]
136	[1-282]	183	[1-501]
137	[1-502]	184	[1-466]
138	[1-495]	185	[51-267]
139	[1-646]	186	[1-485]
140	[1-36],[411-497]	187	[1-521]
141	[1-456]	188	[1-332]
142	[1-488]	189	[1-262]
143	[1-219]	190	[1-552]
144	[1-524]	191	[30-164]
145	[1-514]	192	[1-249]
146	[1-525]	193	[1-324]
147	[1-438]	194	[1-334]
148	[1-265]	195	[1-337]
149	[1-256]	196	[1-296],[462-491]
150	[1-320]	197	[1-56]
151	[1-512]	198	[1-471]
152	[1-497]	199	[1-523]
153	[1-501]	200	[1-465],[523-829]
154	[1-225]	201	[143-477]
155	[1-542]	202	[33-523]
156	[1-211]	203	[1-451]
157	[50-475]	204	[1-505]
158	[1-587]	205	[1-277]
159	[1-533]	206	[1-701]
160	[1-479]	207	[125-162],[191-499]
161	[1-307]	208	[1-485]
162	[1-721]	209	[1-458]
163	[1-495]	210	[1-559]
164	[143-213],[338-493]	211	[1-481]
165	[1-594]	212	[1-452]
166	[1-501]	213	[1-472]
167	[1-481]	214	[1-444]
168	[141-351],[469-562]	215	[1-321]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
216	[1-472]	263	[1-503]
217	[1-461]	264	[1-571]
218	[36-469]	265	[1-497]
219	[36-468]	267	[1-483]
220	[91-480]	268	[1-114],[153-350],[442-599]
221	[54-364]	269	[1-467]
222	[1-46],[107-483]	270	[1-173]
223	[1-76],[174-490]	271	[37-251],[317-376],[518-630]
224	[1-492]	272	[207-291],[344-479]
225	[1-564]	274	[1-473]
226	[85-430]	275	[1-27],[65-213],[251-542]
227	[1-524]	276	[59-469]
228	[1-190]	277	[394-484]
229	[1-199],[233-450]	278	[1-472]
230	[1-306]	279	[1-511]
231	[1-351]	280	[1-499]
232	[1-260]	281	[1-221],[442-472]
233	[1-253]	282	[1-490]
234	[1-405]	283	[1-479]
235	[1-594]	284	[1-489]
236	[1-400]	285	[1-466]
237	[1-481]	286	[1-451]
238	[1-663]	287	[1-609]
239	[1-540]	288	[1-296]
240	[1-559]	289	[1-503]
241	[1-479]	290	[1-386]
242	[1-516]	291	[1-499]
243	[1-558]	292	[1-671]
244	[1-478]	293	[1-112],[384-512]
245	[1-470]	294	[1-288],[326-490]
246	[1-451]	295	[1-322]
247	[1-458]	296	[1-40]
248	[1-473]	297	[1-496]
249	[1-322]	298	[1-492]
250	[1-548]	299	[1-478]
251	[1-453]	300	[1-248]
252	[1-578]	301	[1-455]
253	[1-672]	302	[1-483]
254	[1-368],[437-479]	303	[1-496]
255	[1-115],[158-327]	304	[1-477],[509-622]
256	[158-476]	305	[1-522]
257	[1-506]	306	[1-500]
258	[1-447]	307	[1-25]
259	[1-433]	308	[1-495]
260	[1-467]	309	[1-483]
261	[1-508]	310	[1-467]
262	[1-477]	311	[1-156],[219-272],[332-435]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
312	[1-90],[332-493]
313	[1-570]
314	[1-386]
315	[1-482]
316	[55-478]
317	[1-460]
318	[1-557]
319	[1-587]
320	[1-32],[177-260],[422-489]
321	[50-475]
322	[53-462]
323	[50-474]
324	[1-496]
325	[1-520]
326	[50-480]
327	[1-292]
328	[1-515]
329	[32-513]
330	[1-543]
331	[50-475]
332	[32-495]
333	[1-496]
334	[1-461]
335	[50-475]
337	[1-638]
338	[1-519]
339	[68-252]
340	[1-286],[346-511]
341	[1-487]
342	[1-460]
343	[1-452]
344	[1-478]
345	[1-472]
346	[1-537]
347	[1-488]
348	[1-470]
349	[1-564]
350	[1-494]
351	[1-520]
352	[1-490]
353	[1-491]
354	[1-363]
355	[1-234]
356	[1-522]
357	[1-485]
358	[1-470]
359	[1-332]
360	[158-413]
361	[1-737]
362	[1-470]
363	[1-451]
364	[1-488]
365	[1-299],[476-597]
366	[1-455]
367	[1-494]
368	[1-412]
369	[1-482]
370	[1-513]
371	[1-437]
372	[1-394]
373	[1-474]
374	[1-319]
375	[1-429]
376	[1-524]
377	[1-459]
378	[1-284]
379	[1-496]
380	[1-54],[83-495]
381	[36-530]
382	[1-300]
383	[1-569]
384	[1-480]
385	[1-421]
386	[1-498]
387	[1-497]
388	[1-474]
389	[127-320]
390	[1-490]
391	[1-457]
392	[1-309]
393	[1-349]
394	[1-146]
395	[1-409]
396	[1-146],[175-223]
397	[1-443]
398	[1-574]
399	[1-370]
400	[1-456]
401	[1-482]
402	[1-287]
403	[121-216]
404	[1-417]
405	[1-436]
406	[1-450]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
407	[1-510]	454	[1-493]
408	[1-435]	455	[1-256],[314-593]
409	[1-485]	456	[1-483]
410	[1-237]	457	[1-368]
411	[1-482]	458	[1-378]
412	[1-482]	459	[1-517]
413	[1-419]	460	[1-475]
414	[1-463]	461	[1-528]
415	[1-219]	462	[1-285]
416	[1-460]	463	[1-457]
417	[1-474]	464	[1-188]
418	[158-300],[389-507]	465	[227-382]
419	[1-172]	466	[1-497]
420	[1-505]	467	[48-183],[439-480]
421	[1-504]	468	[1-492]
422	[1-271]	469	[1-388]
423	[1-239]	470	[1-478]
424	[1-213]	471	[1-467]
425	[1-407]	472	[1-527]
426	[1-324]	473	[1-550]
427	[1-377]	474	[1-303]
428	[1-498]	475	[1-169]
429	[1-274]	476	[1-471]
430	[1-83],[411-469]	477	[1-252]
431	[1-464]	478	[1-472]
432	[1-494]	479	[1-510]
433	[1-413]	480	[1-505]
434	[1-323]	481	[1-352]
435	[1-548]	482	[1-286]
436	[1-493]	483	[1-451]
437	[1-457]	484	[1-244]
438	[1-343]	485	[1-482]
439	[1-428]	486	[1-81],[156-383]
440	[1-537]	487	[1-370]
441	[1-28],[113-360]	488	[1-160]
442	[1-502]	489	[1-234]
443	[1-467]	490	[1-458]
444	[1-464]	491	[1-457]
445	[1-504]	492	[1-486]
446	[1-476]	493	[1-452]
447	[1-505]	494	[1-295]
448	[1-495]	495	[1-286],[353-487]
449	[1-503]	496	[1-468]
450	[1-461]	497	[1-481]
451	[1-507]	498	[1-296]
452	[1-480]	499	[1-422]
453	[1-511]	500	[1-461]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
501	[1-506]
502	[1-427]
503	[154-481]
504	[1-489]
505	[1-237],[287-502]
506	[1-458]
507	[1-288],[368-502]
508	[1-473]
509	[1-469]
510	[1-486]
511	[1-51],[159-205]
512	[1-318]
513	[1-470]
514	[1-453]
515	[1-480]
516	[1-496]
517	[1-478]
518	[1-458]
519	[1-560]
520	[1-465]
521	[1-361]
522	[1-278]
523	[1-417]
524	[1-466]
525	[1-469]
526	[1-352],[394-460]
527	[1-483]
528	[1-457]
529	[1-495]
530	[1-63],[135-219],[295-474]
531	[1-467]
532	[1-487]
533	[1-491]
534	[1-193]
535	[1-395]
536	[1-504]
537	[1-501]
538	[1-225]
539	[1-401]
540	[39-472]
541	[1-180],[355-452]
542	[1-506]
543	[1-469]
544	[77-490]
545	[1-467]
546	[1-454]
547	[1-485]

Seq Id No.	Positions of preferred fragments
548	[1-526]
549	[1-484]
550	[1-457]
551	[1-527]
552	[1-459]
553	[1-513]
554	[1-463]
555	[1-232]
556	[1-491]
557	[1-474]
558	[1-471]
559	[1-384]
560	[1-470]
561	[137-504]
562	[1-488]
563	[1-469]
564	[1-481]
565	[1-492]
566	[1-509]
567	[1-479]
568	[31-468]
569	[1-375]
570	[1-486]
571	[1-601]
572	[1-253]
573	[1-496]
574	[1-115],[277-432]
575	[1-449]
576	[1-300],[413-451]
577	[1-507]
578	[1-409]
579	[1-510]
580	[1-112],[263-412]
581	[1-480]
582	[1-509]
583	[1-458]
584	[1-538]
585	[1-513]
586	[1-531]
587	[1-329]
588	[1-491]
589	[1-736]
590	[1-452]
591	[1-523]
592	[1-470]
593	[1-95],[129-233]
594	[1-238]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
595	[1-374]
596	[1-460]
597	[1-461]
598	[88-263],[372-434]
599	[1-521]
600	[1-505]
601	[1-169]
602	[1-247]
603	[33-101],[417-530]
604	[1-61],[184-416]
605	[1-454]
606	[33-328]
607	[1-448]
608	[1-383]
609	[1-246],[383-419]
610	[1-416]
611	[1-459]
612	[1-340]
613	[1-473]
614	[1-506]
615	[1-488]
616	[1-481]
617	[1-494]
618	[1-358]
619	[1-208]
620	[1-309]
621	[1-278]
622	[1-476]
623	[1-412]
624	[1-448]
625	[179-552]
626	[1-463]
627	[1-487]
628	[1-479]
629	[1-478]
630	[1-607]
631	[1-458]
632	[1-502]
633	[1-485]
634	[1-464]
635	[1-494]
636	[1-480]
637	[175-246]
638	[1-177],[210-344]
639	[1-469]
640	[1-426]
641	[1-458]

Seq Id No.	Positions of preferred fragments
642	[1-497]
643	[1-272]
644	[255-353]
645	[1-546]
646	[1-336]
647	[1-368]
648	[1-483]
649	[1-511]
650	[1-489]
651	[1-511]
652	[1-489]
653	[1-519]
654	[1-343]
655	[40-81],[154-198],[275-309],[414-508]
656	[1-486]
657	[1-510]
658	[1-553]
659	[37-78],[177-265]
660	[1-460]
661	[1-451]
662	[1-487]
663	[1-458]
664	[1-535]
665	[1-488]
666	[1-539]
667	[54-490]
668	[1-498]
669	[1-540]
670	[1-497]
671	[1-506]
672	[1-32],[225-259],[421-492]
673	[1-218],[278-465]
674	[1-469]
675	[1-491]
676	[1-429]
677	[1-497]
678	[1-473]
679	[1-366]
680	[1-401]
681	[1-399]
682	[1-508]
683	[1-535]
684	[1-308]
685	[1-452]
686	[1-495]
687	[1-497]
688	[1-499]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
689	[1-467]
690	[179-523]
691	[1-473]
692	[1-503]
693	[1-457]
694	[1-541]
695	[1-339]
696	[1-172]
697	[1-558]
698	[1-435]
699	[1-518]
700	[1-387]
701	[1-487]
702	[1-480]
703	[1-496]
704	[1-262],[462-492]
705	[1-479]
706	[1-369],[407-672]
707	[1-401]
708	[1-501]
709	[1-213],[255-400]
710	[1-318],[359-472]
711	[1-211],[253-370]
712	[1-484]
713	[1-490]
714	[1-534]
715	[1-525]
716	[1-454]
717	[1-452]
718	[1-495]
719	[1-223]
720	[1-469]
721	[1-485]
722	[1-560]
723	[1-32],[237-280],[451-499]
724	[36-242],[374-427]
725	[97-148],[448-531]
726	[34-270]
727	[1-396]
728	[1-167],[249-478]
729	[1-470]
731	[1-406]
732	[1-380]
733	[1-381]
734	[1-280]
735	[1-490]
736	[70-134],[187-270],[448-497]
737	[1-474]
738	[1-498]
739	[30-195],[448-516]
740	[1-454]
741	[1-463]
742	[1-503]
743	[1-327]
744	[1-65]
745	[1-473]
746	[1-519]
747	[1-442]
748	[1-442]
749	[1-454]
750	[1-459]
751	[1-442]
752	[1-120],[156-377]
753	[97-146]
754	[1-487]
755	[138-499]
756	[1-131],[199-307]
757	[1-494]
758	[1-392]
759	[1-211],[253-368]
760	[1-467]
761	[1-311]
762	[1-326]
763	[1-386]
764	[1-472]
765	[1-457]
766	[1-492]
767	[1-39],[225-520]
768	[1-42],[181-262]
769	[65-538]
770	[1-477]
771	[1-506]
772	[1-376]
773	[1-321],[392-499]
774	[1-498]
775	[1-498]
776	[1-487]
777	[1-479],[629-748]
778	[1-589]
779	[1-471]
780	[1-169],[223-704]
781	[1-133]
782	[1-487]
783	[1-42],[134-516]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
784	[1-468]
785	[1-515]
786	[1-516]
787	[1-476]
788	[1-618]
789	[1-212],[294-378]
790	[57-264],[439-494]
791	[1-464]
792	[1-484]
793	[1-130],[169-492]
794	[1-235],[410-453]
795	[177-547]
796	[1-489]
797	[1-280]
798	[1-478]
799	[1-235],[410-453]
800	[1-577]
801	[1-194]
802	[1-444]
803	[1-466]
804	[1-448]
805	[1-484]
806	[1-510]
807	[1-474]
808	[1-221]
809	[1-96]
810	[1-389]
811	[1-451]
812	[1-258]
813	[1-191]
814	[1-484]
815	[1-543]
816	[1-480]
817	[1-507]
818	[1-69],[156-307],[415-477]
819	[156-307],[415-477]
820	[1-332]
821	[1-409]
822	[1-212],[254-376]
824	[1-351]
825	[1-326]
826	[1-466]
827	[1-420]
828	[1-316]
829	[1-482]
830	[1-501]
831	[1-175]

Seq Id No.	Positions of preferred fragments
832	[1-494]
833	[1-497]
834	[1-650]
835	[1-259]
836	[1-486]
837	[1-301]
838	[1-225]
839	[142-537]
840	[1-510]
841	[1-344]
842	[1-513]
843	[1-536]
844	[1-526]
845	[1-345]
846	[1-170],[273-503]
847	[1-471]
848	[1-274]
849	[1-518]
850	[1-475]
851	[1-492]
852	[1-474]
853	[1-546]
854	[1-499]
855	[1-484]
856	[195-473]
857	[1-502]
858	[1-514]
859	[1-481]
860	[1-508]
861	[1-535]
862	[1-504]
863	[1-403]
864	[1-56]
865	[1-557]
866	[1-537]
867	[1-496]
868	[1-491]
869	[1-353]
870	[1-516]
871	[1-374]
872	[1-348]
873	[1-365],[510-542]
874	[1-339]
875	[1-211],[253-369]
876	[199-426]
877	[1-246]
878	[1-473]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
879	[1-486]	926	[1-522]
880	[1-464]	927	[1-358]
881	[1-711]	928	[32-512]
882	[1-489]	929	[1-247]
883	[1-504]	930	[1-486]
884	[1-348]	931	[1-458]
885	[1-484]	932	[1-529]
886	[1-499]	934	[34-233]
887	[1-455]	935	[1-404]
888	[1-452]	936	[1-504]
889	[1-489]	937	[1-602]
890	[1-525]	938	[1-495]
891	[1-408]	939	[1-521]
892	[1-517]	940	[1-539]
893	[1-479]	941	[1-557]
894	[1-257],[477-548]	942	[1-479]
895	[1-499]	943	[1-476]
896	[1-323]	944	[1-529]
897	[1-467]	945	[1-605]
898	[1-453]	946	[1-488]
899	[1-497]	947	[1-285]
900	[1-422]	948	[1-345]
901	[1-359]	949	[1-557]
902	[1-498]	950	[269-353]
903	[1-363]	951	[1-515]
904	[1-539]	952	[1-131]
905	[1-213],[255-369]	953	[1-466]
906	[1-485]	954	[1-283],[432-476]
907	[1-464]	955	[1-506]
908	[1-469]	956	[1-440]
909	[1-707]	957	[155-628]
910	[1-604]	958	[1-525]
911	[1-452]	959	[116-497]
912	[1-173]	960	[1-502]
913	[1-413]	961	[1-525]
914	[1-402]	962	[1-444]
915	[85-245]	963	[70-109]
916	[1-492]	964	[1-457]
917	[54-274]	965	[1-498]
918	[1-462]	966	[1-311]
919	[1-517]	967	[1-182]
920	[1-356]	968	[1-549]
921	[1-526]	969	[1-120],[277-495]
922	[1-478]	970	[1-459]
923	[1-474]	971	[1-492]
924	[1-434]	972	[1-471]
925	[1-900]	973	[35-224]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
974	[1-282]
975	[1-322]
976	[1-479]
977	[1-514]
978	[39-266]
979	[1-260]
980	[1-481]
981	[1-503]
982	[1-388]
983	[1-414]
984	[1-540]
985	[1-482]
986	[1-488]
987	[1-429]
988	[1-492]
989	[1-509]
990	[1-132],[283-383]
991	[1-551]
992	[1-72],[105-549]
993	[1-565]
994	[45-189],[425-502]
995	[1-229]
996	[1-327]
997	[1-220]
999	[1-357]
1000	[1-319]
1001	[1-490]
1002	[1-584]
1003	[1-520]
1004	[1-490]
1005	[1-452]
1006	[1-348]
1007	[1-460]
1008	[1-443]
1009	[1-425]
1010	[1-508]
1011	[1-468]
1012	[1-429]
1013	[1-494]
1014	[1-533]
1015	[1-429]
1016	[1-413]
1017	[1-430]
1018	[1-509]
1019	[1-516]
1020	[1-507]
1021	[1-411]

Seq Id No.	Positions of preferred fragments
1022	[1-487]
1023	[1-480]
1024	[1-443]
1025	[1-440]
1026	[1-464]
1027	[1-524]
1028	[1-381]
1029	[1-479]
1030	[1-474]
1031	[1-556]
1032	[1-537]
1033	[1-425]
1034	[1-462]
1035	[1-455]
1036	[1-447]
1037	[144-450]
1038	[1-65],[141-418]
1039	[1-291]
1040	[1-483]
1041	[1-454]
1042	[1-479]
1043	[1-532]
1044	[1-516]
1045	[1-236]
1046	[1-236]
1047	[1-177]
1048	[1-496]
1049	[1-470]
1050	[1-531]
1051	[1-516]
1052	[1-274]
1053	[1-515]
1054	[1-175],[229-457]
1056	[1-486]
1057	[1-422]
1058	[1-450]
1059	[1-567]
1060	[1-452]
1061	[1-228]
1062	[1-402]
1063	[1-468]
1064	[1-557]
1065	[1-486]
1066	[1-315]
1067	[1-483]
1068	[1-379]
1069	[1-506]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1070	[1-493]
1071	[1-529]
1072	[1-396]
1073	[1-327]
1074	[1-564]
1075	[1-492]
1076	[1-480]
1077	[1-521]
1078	[1-480]
1079	[1-538]
1080	[1-287],[347-509]
1081	[1-190],[220-444]
1082	[1-480]
1083	[1-490]
1084	[56-418]
1085	[165-491]
1086	[93-415]
1087	[1-482]
1088	[1-33],[150-254]
1089	[1-133]
1091	[1-625]
1092	[1-484]
1093	[1-495]
1094	[1-513]
1095	[1-101],[195-294],[385-519]
1096	[1-353],[386-439]
1097	[1-550]
1098	[1-517]
1099	[1-485]
1100	[33-465]
1101	[33-482]
1102	[1-235]
1104	[1-487]
1105	[33-514]
1106	[33-493]
1107	[1-361]
1108	[1-526]
1109	[1-438]
1110	[1-523]
1111	[1-351]
1112	[1-257]
1113	[1-484]
1114	[1-331]
1115	[1-261]
1116	[1-367]
1117	[1-523]
1118	[1-406]

Seq Id No.	Positions of preferred fragments
1119	[1-248]
1120	[1-616]
1121	[1-284]
1122	[1-559]
1123	[1-399]
1124	[1-551]
1125	[1-484]
1126	[1-533]
1127	[1-223]
1128	[1-502]
1129	[1-427]
1130	[57-258]
1131	[1-471]
1132	[1-528]
1133	[1-349]
1134	[112-506]
1135	[1-564]
1136	[1-522]
1137	[1-524]
1138	[1-356]
1139	[1-609]
1140	[1-479]
1141	[1-494]
1142	[1-94],[149-393]
1143	[1-510]
1144	[1-468]
1145	[1-239]
1147	[1-528]
1148	[1-56]
1149	[1-505]
1150	[1-518]
1151	[1-529]
1152	[1-371]
1153	[1-452]
1154	[1-455]
1155	[1-459]
1156	[1-494]
1157	[1-557]
1158	[1-458]
1159	[1-482]
1160	[1-536]
1161	[1-402],[464-507]
1162	[1-401]
1163	[1-488]
1164	[1-405],[467-491]
1165	[1-362],[424-476]
1166	[1-402],[464-488]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1167	[1-400]
1168	[1-94],[137-196],[257-322]
1169	[1-388]
1171	[1-139]
1172	[1-564]
1173	[1-469]
1174	[1-498]
1175	[1-261]
1176	[1-216],[258-442]
1177	[1-531]
1178	[1-394]
1179	[1-915]
1180	[58-557]
1181	[1-235]
1182	[1-70],[254-567]
1183	[1-436]
1184	[1-486]
1185	[1-599]
1186	[75-189],[269-338],[426-548]
1187	[1-510]
1188	[1-472]
1189	[1-116],[192-472]
1190	[1-536]
1191	[1-476]
1192	[1-553]
1193	[1-574]
1194	[1-469]
1195	[1-479]
1196	[1-554]
1197	[1-482]
1198	[1-461]
1199	[1-467]
1200	[1-486]
1201	[1-208]
1202	[1-512]
1203	[1-42],[123-750]
1204	[1-57],[138-534]
1205	[1-42],[123-452]
1206	[1-186],[411-465]
1207	[127-469]
1208	[1-457]
1209	[1-487]
1210	[1-601]
1211	[1-561]
1212	[1-454]
1213	[1-402]
1214	[48-268],[480-519]

Seq Id No.	Positions of preferred fragments
1215	[1-524]
1216	[1-505]
1217	[1-254]
1218	[1-455]
1219	[1-453]
1220	[1-453]
1221	[1-486]
1222	[1-460]
1223	[1-94],[222-387]
1224	[1-218],[292-386]
1225	[1-348]
1226	[1-202]
1227	[293-387]
1228	[1-594]
1229	[1-579]
1230	[1-163],[302-504]
1231	[1-517]
1232	[1-318]
1233	[1-43],[137-252]
1234	[1-489]
1235	[1-317]
1236	[1-485]
1237	[1-455]
1238	[1-93],[280-536]
1239	[1-468]
1240	[1-567]
1241	[78-248]
1242	[1-409]
1243	[1-232]
1244	[1-563]
1245	[1-241]
1246	[1-478]
1247	[1-504]
1248	[1-527]
1249	[1-468]
1250	[1-537]
1251	[1-568]
1252	[1-492]
1253	[1-528]
1254	[1-515]
1255	[1-512]
1256	[1-481]
1257	[1-484]
1258	[1-360]
1259	[1-525]
1260	[1-371],[450-554]
1261	[1-651]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1262	[1-491]
1263	[1-508]
1264	[1-490]
1265	[1-540]
1266	[1-308]
1267	[1-516]
1268	[1-612]
1269	[499-544]
1270	[1-497]
1271	[1-530]
1272	[1-474]
1273	[1-435]
1274	[1-227]
1275	[113-519]
1276	[1-540]
1277	[1-496]
1278	[1-487]
1279	[1-482]
1280	[1-603]
1281	[1-75]
1282	[1-512]
1283	[1-519]
1284	[1-476]
1285	[1-304],[361-478]
1286	[226-518]
1287	[1-490]
1288	[1-301],[358-490]
1289	[1-420]
1290	[1-512]
1291	[1-527]
1292	[1-160]
1293	[1-484]
1294	[1-366]
1295	[1-467]
1296	[1-493]
1297	[1-27]
1298	[150-472]
1300	[1-562]
1301	[170-502]
1302	[1-639]
1305	[1-375]
1306	[1-265],[370-484]
1307	[1-485]
1308	[1-339]
1309	[1-450]
1310	[1-459]
1311	[1-487]

Seq Id No.	Positions of preferred fragments
1312	[1-516]
1313	[1-471]
1314	[1-504]
1315	[1-492]
1316	[1-333]
1317	[159-471]
1318	[1-505]
1319	[1-562]
1320	[1-369]
1321	[1-375],[414-470]
1322	[1-249]
1323	[1-204]
1324	[1-240]
1325	[1-212]
1326	[1-511]
1327	[1-480]
1328	[1-472]
1329	[1-453]
1330	[1-498]
1331	[1-86],[177-527]
1332	[1-477]
1333	[1-349]
1334	[1-394]
1335	[1-341]
1336	[1-318]
1337	[1-480]
1338	[1-212]
1339	[1-409]
1340	[255-358],[465-509]
1341	[168-279]
1342	[1-464]
1343	[328-602]
1345	[1-83],[121-225],[255-645]
1346	[1-83],[121-225],[255-422],[455-648]
1347	[1-169],[522-582]
1348	[1-442]
1349	[204-489]
1350	[177-201],[240-509]
1351	[1-262]
1352	[1-452]
1353	[1-477]
1354	[1-511]
1355	[1-619]
1356	[1-1108]
1357	[1-380]
1358	[1-523]
1359	[58-389],[447-518]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1360	[1-486]
1361	[212-822]
1362	[1-642]
1363	[1-469]
1364	[1-489]
1365	[1-567]
1366	[1-106],[526-639]
1367	[39-148]
1368	[1-498]
1369	[1-617]
1370	[1-452]
1371	[1-511]
1372	[1-514]
1373	[1-453]
1374	[1-514]
1375	[1-490]
1376	[1-25],[266-476]
1377	[1-41],[159-434]
1378	[112-476]
1379	[1-503]
1380	[1-475]
1381	[271-470]
1382	[1-579]
1383	[1-362]
1384	[1-902]
1385	[1-504]
1387	[1-337]
1388	[1-337],[451-492]
1389	[1-40]
1390	[1-412]
1391	[1-803]
1392	[1-540]
1393	[1-137],[194-498]
1394	[1-174]
1395	[1-340]
1396	[1-510]
1398	[1-490]
1399	[1-227],[311-477]
1400	[1-428]
1401	[1-426]
1402	[1-496]
1403	[1-524]
1404	[1-484]
1405	[1-481]
1406	[1-769]
1407	[1-568]
1408	[1-241]

Seq Id No.	Positions of preferred fragments
1409	[1-475]
1410	[1-552]
1411	[1-470]
1412	[1-475]
1413	[1-273]
1414	[1-504]
1415	[1-80],[114-583]
1416	[1-65],[132-404]
1417	[1-420]
1418	[1-498]
1419	[1-525]
1420	[1-490]
1421	[1-539]
1422	[1-520]
1423	[1-476]
1424	[90-430]
1425	[1-544]
1426	[1-386],[469-596]
1427	[1-356]
1428	[1-325]
1429	[1-540]
1430	[1-495]
1431	[1-494]
1432	[39-553]
1433	[59-389]
1434	[1-500]
1435	[1-510]
1436	[1-255],[322-433]
1437	[1-497]
1438	[1-336]
1439	[198-352]
1440	[1-203],[293-587]
1441	[1-343]
1442	[1-523]
1443	[1-466]
1444	[1-510]
1445	[1-239]
1446	[1-484]
1447	[1-26],[318-364]
1448	[1-461]
1449	[1-240]
1450	[1-239]
1451	[1-240]
1452	[1-239]
1453	[1-686]
1454	[1-98],[344-421]
1455	[1-506]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1456	[1-491]
1457	[1-487]
1458	[318-437]
1459	[1-522]
1460	[1-379]
1461	[1-474]
1462	[425-469]
1463	[1-830]
1464	[354-496]
1465	[573-623]
1466	[1-82],[211-411]
1467	[1-360],[402-510]
1468	[1-487]
1469	[1-481]
1470	[1-505]
1471	[1-603]
1472	[1-113],[361-486]
1473	[1-387]
1474	[101-219],[254-520]
1475	[1-472]
1476	[1-486]
1477	[1-1111]
1478	[1-113],[361-414],[450-516]
1479	[1-532]
1480	[1-468]
1481	[244-444]
1482	[1-415]
1483	[1-573]
1484	[1-450]
1485	[1-512]
1486	[1-480]
1487	[104-485]
1488	[1-520]
1489	[1-436]
1490	[1-678]
1491	[1-453]
1492	[1-483]
1493	[1-496]
1494	[172-229],[262-370]
1495	[1-427]
1496	[1-510]
1497	[1-86],[494-540]
1498	[1-776]
1499	[1-334]
1500	[1-454]
1501	[1-435]
1502	[1-270]

Seq Id No.	Positions of preferred fragments
1503	[1-372]
1504	[1-374]
1505	[1-559]
1506	[1-524]
1508	[1-692]
1509	[1-459]
1510	[1-433]
1511	[1-537]
1512	[100-456]
1513	[1-484]
1514	[1-509]
1515	[1-124]
1516	[1-543]
1517	[1-752]
1518	[37-101],[154-453]
1519	[1-358]
1520	[1-426]
1521	[1-461]
1522	[1-501]
1523	[1-498]
1524	[1-444]
1525	[1-512]
1526	[1-589]
1527	[1-566]
1528	[1-349]
1529	[1-511]
1530	[1-547]
1532	[1-459]
1533	[1-327],[436-509]
1534	[1-502]
1535	[1-597]
1536	[1-492]
1537	[1-452]
1538	[1-496]
1539	[1-501]
1540	[1-524]
1541	[1-536]
1542	[1-451]
1543	[1-923]
1544	[1-463]
1545	[1-480]
1546	[1-213]
1547	[1-465]
1548	[1-496]
1549	[1-468]
1550	[1-544]
1551	[1-508]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1552	[1-124],[244-375],[415-440]
1553	[1-679]
1554	[1-357]
1555	[1-546]
1556	[1-430]
1557	[1-492]
1558	[1-540]
1559	[1-490]
1560	[152-584]
1561	[1-466]
1562	[1-525]
1563	[1-515]
1564	[1-522]
1565	[1-478]
1566	[1-474]
1567	[1-521]
1568	[1-499]
1569	[1-673]
1570	[69-509]
1571	[1-482]
1572	[1-322]
1573	[1-502]
1574	[1-566]
1575	[213-503]
1576	[1-529]
1577	[1-187],[241-468]
1578	[1-267],[303-404]
1579	[1-494]
1580	[1-510]
1581	[125-435]
1582	[1-487]
1583	[1-455]
1584	[1-501]
1585	[1-492]
1586	[64-499]
1587	[90-258]
1588	[1-484]
1589	[1-428]
1590	[1-360]
1591	[1-486]
1592	[1-36],[471-518]
1593	[1-611]
1594	[1-362]
1595	[1-467]
1596	[1-28],[70-112],[164-254],[305-541]
1597	[1-232],[398-435]
1598	[1-502]
1599	[176-207],[317-682]
1600	[1-292]
1601	[1-465]
1602	[79-561]
1603	[1-555]
1604	[1-678]
1605	[1-200]
1606	[1-583]
1607	[1-67],[153-433],[482-506]
1608	[1-355]
1609	[1-453]
1610	[1-491]
1611	[193-354]
1612	[1-427]
1613	[1-425]
1614	[245-464]
1615	[1-513]
1616	[1-954]
1617	[1-483]
1618	[1-461]
1619	[1-468]
1620	[82-113],[336-397]
1621	[284-499]
1622	[1-526]
1623	[1-513]
1624	[1-477]
1625	[1-521]
1626	[1-463]
1627	[1-508]
1628	[1-321]
1629	[1-348]
1630	[1-486]
1631	[1-472]
1632	[1-545]
1633	[1-453]
1634	[1-485]
1635	[1-342],[413-457],[493-570]
1636	[1-476]
1637	[1-183]
1638	[1-437]
1639	[1-478]
1640	[1-183],[213-484]
1641	[1-379]
1642	[1-456]
1643	[1-600]
1644	[1-352]
1645	[1-468]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
1646	[1-488]	1693	[1-454]
1647	[1-370]	1694	[1-469]
1648	[1-414]	1695	[1-293]
1649	[1-167],[241-316],[348-398],[428-548]	1696	[1-577]
1650	[1-413]	1697	[1-465]
1651	[1-437]	1698	[1-433]
1652	[1-473]	1699	[1-354]
1653	[1-517]	1700	[1-782]
1654	[1-505]	1701	[1-85]
1655	[1-474]	1702	[1-320],[378-456]
1656	[1-459]	1703	[1-42],[127-457]
1657	[1-482]	1704	[1-130],[583-621]
1658	[1-637]	1705	[1-544]
1659	[1-205],[271-381],[456-552]	1706	[1-489]
1660	[1-451]	1707	[1-542]
1661	[1-489]	1708	[1-457]
1662	[1-396]	1709	[1-509]
1663	[1-581]	1710	[1-494]
1664	[1-737]	1711	[1-511]
1665	[37-377]	1712	[1-57],[177-529]
1666	[1-641]	1713	[1-356]
1667	[1-474]	1714	[1-481]
1668	[36-377],[429-491]	1715	[1-475]
1669	[1-585]	1716	[73-497]
1670	[79-267]	1717	[1-496]
1671	[1-531]	1718	[1-476]
1672	[221-471]	1719	[1-506]
1673	[1-416]	1720	[1-511]
1674	[1-476]	1721	[1-1062]
1675	[1-357]	1722	[1-552]
1676	[1-406]	1723	[301-498]
1677	[1-602]	1724	[1-444]
1678	[1-418]	1725	[1-527]
1679	[1-459]	1726	[1-494]
1680	[1-686]	1727	[1-567]
1681	[1-412]	1728	[104-507]
1682	[1-517]	1729	[1-482]
1683	[1-166],[455-486]	1730	[1-470]
1684	[1-523]	1731	[1-483]
1685	[1-691]	1732	[1-491]
1686	[1-448]	1733	[1-568]
1687	[1-517]	1734	[1-540]
1688	[1-456]	1735	[41-440]
1689	[1-506]	1736	[1-505]
1690	[1-464]	1737	[1-712]
1691	[1-415]	1738	[1-649]
1692	[1-472]	1739	[122-231],[421-451]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1740	[1-296]
1741	[1-478]
1742	[1-454]
1743	[1-630]
1744	[1-512]
1745	[1-767]
1746	[1-363]
1747	[1-380],[409-478]
1748	[1-404]
1749	[1-394]
1750	[1-237],[311-587]
1751	[1-380],[491-582]
1752	[1-475]
1753	[1-513]
1754	[1-475]
1755	[1-487]
1756	[1-450]
1757	[1-700]
1758	[1-517]
1759	[1-253]
1760	[1-288]
1761	[1-475]
1762	[1-458]
1763	[1-420]
1764	[1-493]
1765	[1-544]
1766	[1-468]
1767	[1-495]
1768	[1-492]
1769	[1-265]
1770	[1-460]
1771	[1-664]
1772	[1-581]
1773	[51-472]
1774	[195-451]
1775	[1-394],[437-556]
1776	[446-513]
1777	[1-426]
1778	[1-460]
1779	[1-434]
1780	[1-424]
1781	[1-525]
1782	[295-512]
1783	[1-714]
1784	[1-175],[280-456]
1785	[1-477]
1786	[1-622]
1787	[1-308]
1788	[60-327]
1789	[1-462]
1790	[1-480]
1791	[1-549]
1792	[1-558]
1793	[1-498]
1794	[1-477]
1795	[1-513]
1796	[1-41],[281-341],[383-554]
1797	[1-497]
1798	[1-513]
1799	[1-503]
1800	[1-489]
1801	[1-428]
1802	[1-509]
1803	[1-55],[85-285],[314-361],[441-565]
1804	[1-463]
1805	[1-477]
1806	[1-405]
1807	[1-485]
1808	[1-526]
1809	[1-483]
1810	[1-519]
1811	[1-544]
1812	[1-490]
1813	[172-464]
1814	[1-712]
1815	[128-165],[268-364],[435-516]
1816	[1-475]
1817	[1-534]
1818	[1-214],[289-519]
1819	[84-197],[353-495]
1820	[1-580]
1821	[1-493]
1822	[1-579]
1823	[1-494]
1824	[1-482]
1825	[1-292]
1826	[1-551]
1827	[1-547]
1828	[1-433],[493-642]
1829	[1-352]
1830	[1-462]
1831	[1-476]
1832	[1-465]
1833	[249-429],[466-517]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1834	[1-454]
1835	[1-615]
1836	[1-271],[305-458]
1837	[1-486]
1838	[1-470]
1839	[1-564]
1840	[1-473]
1841	[1-438]
1842	[1-127],[431-476]
1843	[1-29],[119-363]
1844	[1-466]
1845	[1-570]
1847	[1-462]
1848	[1-462]
1849	[1-459]
1850	[1-526]
1851	[1-480]
1852	[1-98],[204-517]
1853	[1-500]
1854	[1-671]
1855	[1-402]
1856	[1-510]
1857	[1-465]
1858	[1-755]
1859	[1-465]
1860	[1-420],[462-487]
1861	[1-270]
1862	[1-613]
1863	[175-377],[466-596]
1864	[1-468]
1865	[1-492]
1866	[1-503]
1867	[1-545],[576-934]
1868	[1-475]
1869	[1-476]
1870	[1-440],[482-509]
1871	[1-448]
1872	[1-505]
1873	[1-935]
1874	[1-514]
1876	[1-436]
1877	[1-667]
1878	[1-787]
1879	[1-493]
1880	[1-466]
1881	[1-319]
1882	[1-501]
1883	[1-515]
1884	[1-46],[385-491]
1885	[1-392]
1886	[1-646]
1887	[1-515]
1888	[1-455]
1889	[1-457]
1890	[1-465]
1891	[1-364],[572-640]
1892	[1-443]
1893	[1-66]
1894	[1-741]
1895	[1-542]
1896	[1-482]
1897	[1-467]
1898	[1-480]
1899	[1-484]
1900	[1-422]
1902	[1-25],[365-494]
1903	[1-481]
1904	[1-501]
1905	[1-540]
1906	[1-144],[452-486]
1907	[1-474]
1908	[1-485]
1909	[1-499]
1910	[1-460]
1911	[1-462]
1912	[1-503]
1913	[393-509]
1914	[1-456]
1915	[1-506]
1916	[1-234],[284-399],[440-469]
1917	[63-484]
1918	[97-453]
1919	[1-471]
1920	[1-663]
1921	[1-488]
1922	[32-492]
1923	[1-42],[123-388]
1924	[1-473]
1925	[1-487]
1926	[1-464]
1927	[1-475]
1928	[47-496]
1929	[1-471]
1930	[1-488]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
1931	[1-36],[248-475]
1932	[1-232],[272-509]
1933	[1-451]
1934	[1-530]
1935	[1-63],[239-320],[421-542]
1936	[1-650]
1937	[1-302]
1938	[1-471]
1939	[1-294]
1940	[1-294]
1941	[262-315]
1942	[1-302]
1943	[1-310]
1944	[1-281]
1945	[1-654]
1946	[1-521]
1947	[1-1013]
1948	[1-510]
1949	[1-472]
1950	[1-533]
1951	[1-427]
1952	[1-449]
1953	[1-515]
1954	[1-509]
1955	[1-449]
1956	[1-482]
1957	[1-486]
1958	[1-449]
1959	[1-450]
1960	[1-552]
1961	[1-191],[252-333]
1962	[1-508]
1963	[1-482]
1964	[1-534]
1965	[1-491]
1966	[1-497]
1967	[1-549]
1968	[1-609]
1969	[1-708]
1970	[1-496]
1971	[1-488]
1972	[1-380],[425-570]
1973	[328-368],[442-467]
1974	[1-116],[232-426]
1975	[98-470]
1976	[105-398]
1977	[1-478]
1978	[1-491]
1979	[30-212]
1980	[1-370]
1981	[1-334]
1982	[1-471]
1983	[1-142]
1984	[1-834]
1985	[1-507]
1986	[1-491]
1987	[1-413]
1988	[1-350]
1989	[1-458]
1990	[1-487]
1991	[1-538]
1992	[1-453]
1993	[1-486]
1994	[1-482]
1995	[1-621]
1996	[1-511]
1997	[1-477]
1998	[1-543]
1999	[1-355]
2000	[1-497]
2001	[1-486]
2002	[1-453]
2003	[85-567]
2004	[95-490]
2005	[1-626]
2006	[319-800]
2007	[1-432]
2008	[1-495]
2009	[1-34],[120-216],[245-522]
2010	[51-421]
2011	[1-514]
2012	[1-461]
2013	[1-42],[206-355]
2014	[1-518]
2015	[1-41],[205-354]
2016	[205-479]
2017	[1-635]
2018	[1-502]
2019	[1-603]
2020	[1-473]
2021	[1-33],[161-246],[327-515]
2022	[1-436]
2023	[1-229]
2024	[1-594]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2025	[1-465]
2026	[144-466]
2027	[1-525]
2028	[1-345]
2029	[1-470]
2030	[140-534]
2031	[1-291]
2032	[1-450]
2033	[1-558]
2034	[1-506]
2035	[1-492]
2036	[1-587]
2037	[1-507]
2038	[1-99],[128-466]
2039	[1-480]
2040	[1-501]
2041	[1-395]
2042	[1-494]
2043	[1-483]
2044	[1-481]
2045	[1-471]
2046	[1-462]
2047	[1-594]
2048	[1-526]
2049	[1-421]
2050	[1-483]
2051	[1-539]
2052	[1-399]
2053	[414-532],[731-820]
2054	[1-402]
2055	[1-662]
2056	[1-154]
2057	[1-262]
2058	[144-475]
2059	[1-483]
2060	[1-483]
2061	[1-466]
2062	[1-422]
2063	[1-490]
2064	[1-341]
2065	[1-448]
2066	[1-222]
2067	[1-461]
2068	[1-174],[207-617]
2069	[1-503]
2070	[1-499]
2071	[1-343]
2072	[1-461]
2073	[1-351]
2074	[1-460]
2075	[1-558]
2076	[1-384]
2077	[1-456]
2078	[1-453]
2079	[1-527]
2080	[1-469]
2081	[1-506]
2082	[1-685]
2083	[1-504]
2084	[1-463]
2085	[1-54],[244-419]
2086	[1-504]
2087	[1-496]
2088	[1-40],[73-432]
2089	[1-483]
2090	[1-480]
2091	[1-488]
2092	[1-483]
2093	[1-311]
2094	[1-159],[284-452]
2095	[1-446]
2096	[1-495]
2097	[1-478]
2098	[1-460]
2099	[1-223],[278-346],[437-477]
2100	[1-160],[285-505]
2101	[1-459]
2102	[1-374]
2103	[1-384]
2104	[1-554]
2105	[1-476]
2106	[1-71],[113-491]
2107	[1-461]
2108	[1-544]
2109	[1-515]
2110	[1-352]
2111	[92-178]
2112	[1-443]
2113	[1-342]
2114	[62-479]
2115	[1-470]
2116	[1-403]
2117	[1-478]
2118	[1-485]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2119	[1-302],[337-434]
2120	[1-375]
2121	[1-407]
2122	[1-395]
2123	[1-533]
2124	[1-448]
2125	[1-437]
2126	[1-455]
2127	[1-428]
2128	[1-359]
2129	[1-546]
2130	[1-501]
2131	[1-513]
2132	[1-388]
2133	[1-432]
2134	[1-277]
2135	[1-503]
2136	[209-458]
2137	[1-508]
2138	[1-476]
2139	[1-479]
2140	[1-428]
2141	[1-463]
2142	[1-497]
2143	[236-459]
2144	[1-533]
2145	[149-217]
2146	[1-431]
2147	[1-408]
2148	[1-564]
2149	[1-295]
2150	[1-336]
2151	[1-449]
2152	[1-572]
2153	[1-223]
2154	[1-523]
2155	[1-499]
2156	[1-600]
2157	[400-510]
2158	[1-486]
2159	[1-488]
2160	[1-503]
2161	[1-470]
2162	[1-169],[332-391]
2163	[1-458]
2164	[1-495]
2165	[1-145]
2166	[1-520]
2167	[1-512]
2168	[1-398]
2169	[1-493]
2170	[1-532]
2171	[1-419]
2172	[1-506]
2173	[1-491]
2174	[1-564]
2175	[1-474]
2176	[1-520]
2177	[1-452]
2178	[1-456]
2179	[1-482]
2180	[87-323]
2181	[1-467]
2182	[1-474]
2183	[1-469]
2184	[1-379]
2185	[1-413]
2186	[1-483]
2187	[1-451]
2188	[1-476]
2189	[1-43]
2190	[1-379],[419-453]
2191	[256-569]
2192	[1-482]
2193	[34-462]
2194	[1-487]
2195	[1-568]
2196	[1-306]
2197	[1-462]
2198	[1-439]
2199	[1-489]
2200	[1-544]
2201	[1-485]
2202	[1-492]
2203	[1-474]
2204	[1-361]
2205	[1-513]
2206	[1-481]
2207	[1-31]
2208	[1-73],[399-463]
2209	[1-892]
2210	[1-54],[180-499]
2211	[1-455]
2212	[1-474]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2213	[1-499]
2214	[1-457]
2215	[1-479]
2216	[1-481]
2217	[1-239]
2218	[1-162],[358-510]
2219	[1-471]
2220	[1-473]
2221	[1-286]
2222	[127-197]
2223	[77-459]
2224	[1-102],[185-383]
2225	[1-422]
2226	[1-93],[225-333],[390-526]
2227	[130-464]
2228	[1-489]
2229	[1-296]
2230	[1-440]
2231	[48-457]
2232	[1-423]
2233	[1-475]
2234	[1-459]
2235	[1-481]
2236	[1-452]
2237	[1-415]
2238	[1-456]
2239	[1-508]
2240	[44-471]
2241	[1-213],[409-467]
2242	[1-473]
2243	[1-333]
2244	[1-511]
2245	[1-472]
2246	[1-463]
2247	[1-494]
2248	[1-467]
2249	[1-419]
2250	[1-474]
2251	[1-42],[113-305],[368-499]
2252	[1-529]
2253	[1-381]
2254	[1-468]
2255	[1-535]
2256	[1-553]
2257	[1-469]
2258	[1-508]
2259	[139-420]

Seq Id No.	Positions of preferred fragments
2260	[1-472]
2261	[1-460]
2262	[1-599]
2263	[59-489]
2264	[1-460]
2265	[105-460]
2266	[1-386]
2267	[1-472]
2268	[1-484]
2269	[1-502]
2270	[1-503]
2271	[1-563]
2272	[1-486]
2273	[1-459]
2274	[1-330]
2275	[111-153],[487-514]
2276	[1-467]
2277	[1-451]
2278	[1-462]
2279	[1-372]
2280	[1-457]
2281	[1-484]
2282	[1-537]
2283	[1-370]
2284	[1-559]
2285	[1-464]
2286	[1-460]
2287	[1-511]
2288	[1-274],[330-439]
2289	[34-478]
2290	[1-505]
2291	[85-502]
2292	[1-478]
2293	[295-477]
2294	[1-461]
2295	[1-311]
2296	[1-346]
2297	[1-476]
2298	[1-386]
2299	[1-181],[216-274]
2300	[1-433]
2301	[1-369]
2302	[1-428]
2303	[1-507]
2304	[164-471]
2305	[1-374]
2306	[1-457]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2307	[67-469]
2308	[1-499]
2309	[1-507]
2310	[1-472]
2311	[1-478]
2312	[1-468]
2313	[45-329]
2314	[1-302]
2315	[1-372]
2316	[1-423]
2317	[1-476]
2318	[1-238]
2319	[1-499]
2320	[1-473]
2321	[1-67],[215-466]
2322	[234-424]
2323	[1-489]
2324	[1-182]
2325	[1-460]
2326	[1-269]
2327	[1-493]
2328	[1-496]
2329	[1-493]
2330	[1-413]
2331	[1-492]
2332	[1-452]
2333	[1-456]
2334	[1-443]
2335	[1-413]
2336	[1-479]
2337	[1-311]
2338	[1-450]
2339	[45-378]
2340	[1-445]
2341	[1-339]
2342	[1-295]
2343	[67-478]
2344	[1-516]
2345	[1-498]
2346	[1-466]
2347	[1-480]
2348	[1-202],[236-415]
2349	[1-317]
2350	[1-503]
2351	[1-616]
2352	[1-115]
2353	[1-469]
2354	[1-494]
2355	[1-479]
2356	[1-79]
2357	[1-456]
2358	[1-473]
2359	[1-473]
2360	[1-540]
2361	[1-470]
2362	[1-485]
2363	[1-495]
2364	[1-358]
2365	[154-482]
2366	[1-355]
2367	[1-88],[150-469]
2368	[88-218],[269-333],[379-472]
2369	[93-262],[326-489]
2370	[1-248],[307-454]
2371	[1-388]
2372	[1-556]
2373	[1-523]
2374	[1-446]
2375	[1-585]
2376	[1-520]
2377	[1-487]
2378	[1-459]
2379	[1-65],[471-535]
2380	[1-65],[200-485]
2381	[37-269]
2382	[1-155],[184-437]
2383	[1-489]
2384	[1-660]
2385	[1-491]
2386	[1-459]
2387	[1-517]
2388	[1-516]
2389	[1-499]
2390	[199-277],[318-386],[423-523]
2391	[1-45],[282-458]
2392	[1-856]
2393	[58-457]
2394	[1-468]
2395	[1-475]
2396	[1-497]
2397	[1-584]
2398	[1-479]
2399	[1-559]
2400	[1-459]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2401	[189-487]
2402	[1-306]
2403	[1-468]
2404	[1-341]
2405	[1-467]
2406	[1-358]
2407	[1-438]
2408	[1-181],[279-374]
2409	[1-516]
2410	[1-468]
2411	[1-325],[394-857]
2412	[1-506]
2413	[43-512]
2414	[1-62],[98-129],[220-548]
2415	[1-268]
2416	[1-490]
2417	[1-930]
2418	[1-489]
2419	[1-32],[188-302]
2420	[1-531]
2421	[1-476]
2422	[37-360]
2423	[1-501]
2424	[1-347]
2425	[1-488]
2426	[1-506]
2427	[1-413]
2428	[1-392]
2429	[1-391]
2430	[1-510]
2431	[1-542]
2432	[1-490]
2433	[1-537]
2434	[1-458]
2435	[1-557]
2436	[67-493]
2437	[1-363]
2438	[1-433]
2439	[1-500],[557-581]
2440	[1-522]
2441	[1-319],[352-473]
2442	[1-444]
2443	[49-451]
2444	[1-451]
2445	[1-504]
2446	[1-430]
2447	[1-485]
2448	[1-546]
2449	[1-517]
2450	[1-463]
2451	[1-349]
2452	[1-467]
2453	[1-571]
2454	[1-551]
2455	[1-461]
2456	[1-481]
2457	[1-468]
2458	[1-492]
2459	[1-492]
2460	[1-511]
2461	[1-675]
2462	[249-498]
2463	[1-482]
2464	[1-499]
2465	[59-498]
2466	[322-489]
2467	[1-511]
2468	[378-493]
2469	[1-452]
2470	[1-556]
2471	[1-287]
2472	[1-295]
2473	[1-465]
2474	[1-451]
2475	[1-527]
2476	[91-397]
2477	[1-364]
2478	[1-467]
2479	[1-360]
2480	[1-502]
2481	[1-537]
2482	[1-479]
2483	[91-397]
2484	[1-514]
2485	[1-582]
2486	[1-420]
2487	[1-554]
2488	[1-465]
2489	[1-410]
2490	[1-493]
2491	[1-461]
2492	[69-533]
2493	[1-895]
2494	[1-561]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2495	[1-451]
2496	[1-354]
2497	[1-793]
2498	[1-491]
2499	[1-780]
2500	[1-300]
2501	[1-466]
2502	[1-405]
2503	[1-476]
2504	[1-219],[327-456]
2505	[1-180],[509-543]
2506	[1-507]
2507	[1-311],[388-513]
2508	[1-488]
2509	[1-482]
2510	[1-489]
2511	[1-508]
2512	[1-471]
2513	[1-47],[95-478]
2514	[1-498]
2515	[48-152],[198-446]
2516	[1-553]
2517	[1-468]
2518	[1-484]
2519	[1-488]
2520	[443-525]
2521	[1-457]
2522	[1-49],[125-452]
2523	[1-538]
2524	[1-600]
2525	[1-390]
2526	[1-469]
2527	[1-521]
2528	[1-513]
2530	[274-500]
2531	[190-484]
2532	[1-481]
2533	[1-429],[459-487]
2534	[1-465]
2535	[1-463]
2536	[1-484]
2537	[1-125],[292-533]
2538	[1-516]
2539	[1-183],[317-484]
2540	[1-985]
2541	[1-508]
2542	[1-484]
2543	[1-544]
2544	[1-25],[56-165],[279-450]
2545	[1-584]
2546	[1-438]
2547	[1-578]
2548	[159-497]
2549	[1-459]
2550	[1-478]
2551	[1-424]
2552	[44-484]
2553	[1-51],[249-390]
2554	[1-488]
2555	[1-263],[316-477]
2556	[1-502]
2557	[1-528]
2558	[1-513]
2559	[1-346]
2560	[1-505]
2561	[1-473]
2562	[1-589]
2563	[1-502]
2564	[1-513]
2566	[64-510]
2567	[1-361]
2568	[1-70],[342-483]
2569	[1-500]
2570	[1-624]
2571	[1-483]
2572	[1-70],[184-345]
2573	[37-78],[177-363]
2574	[1-834]
2575	[1-530]
2576	[1-456]
2577	[1-43],[98-534]
2578	[1-43],[98-534]
2579	[1-556]
2580	[1-622]
2581	[1-231]
2582	[1-211]
2583	[1-231]
2584	[155-647]
2585	[1-476]
2586	[1-482]
2587	[1-560]
2588	[1-541]
2589	[1-492]
2590	[1-314],[407-497]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2591	[1-541]
2592	[1-575]
2593	[179-490]
2594	[1-522]
2595	[1-627]
2596	[1-176],[207-506]
2597	[1-588]
2598	[1-504]
2599	[1-97],[169-465]
2600	[1-627]
2601	[1-542]
2602	[1-451]
2603	[1-453]
2604	[148-455]
2605	[1-538]
2606	[1-270]
2607	[1-235]
2608	[1-471]
2609	[1-530]
2610	[1-489]
2611	[1-468]
2612	[1-720]
2613	[1-251],[315-556]
2614	[1-803]
2615	[1-491]
2616	[1-478]
2617	[1-578]
2618	[1-154],[291-407]
2619	[1-276],[313-356],[401-460]
2620	[1-488]
2621	[1-547]
2622	[1-429]
2623	[1-437]
2624	[1-452]
2625	[1-445]
2626	[1-442]
2627	[1-446]
2628	[1-448]
2629	[1-441]
2630	[1-475]
2631	[1-443]
2632	[1-469]
2633	[1-452]
2634	[1-439]
2635	[1-488]
2636	[1-447]
2637	[1-484]
2638	[80-388]
2639	[1-444]
2640	[69-404]
2641	[66-394]
2642	[1-444]
2643	[1-439]
2644	[1-493]
2645	[1-444]
2646	[1-448]
2647	[1-522]
2648	[1-481]
2649	[1-600]
2650	[1-492]
2651	[1-357]
2652	[1-386]
2653	[1-361],[509-540]
2654	[1-440]
2655	[1-512]
2657	[1-461]
2658	[1-414]
2659	[1-336]
2660	[1-341],[379-444]
2661	[1-337]
2662	[1-465]
2663	[1-489]
2664	[1-490]
2665	[1-470]
2666	[1-396]
2667	[1-368]
2668	[1-42],[82-553]
2669	[1-485]
2670	[1-455]
2671	[1-117],[508-607]
2672	[213-479]
2673	[367-452]
2674	[1-330]
2675	[1-748]
2676	[1-502]
2677	[1-497]
2678	[1-468]
2679	[1-322],[397-482]
2680	[1-520]
2681	[1-484]
2682	[1-481]
2683	[1-69],[250-496]
2684	[1-470]
2685	[1-478]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2686	[48-350]
2687	[1-451]
2688	[1-488]
2689	[1-505]
2690	[1-491]
2691	[1-507]
2692	[1-526]
2693	[1-523]
2694	[1-572]
2695	[1-544]
2696	[1-494]
2697	[1-100]
2698	[1-292],[328-461]
2699	[1-499]
2700	[1-552]
2701	[1-466]
2702	[1-224],[253-308],[385-409]
2703	[1-511]
2704	[1-464]
2705	[1-590]
2706	[97-484]
2707	[64-196],[298-483]
2708	[1-517]
2709	[1-474]
2710	[1-473]
2711	[1-513]
2712	[1-513]
2713	[1-501]
2714	[1-506]
2715	[1-471]
2716	[1-525]
2717	[1-515]
2718	[1-521]
2719	[1-399]
2720	[1-107],[138-481]
2721	[1-497]
2722	[1-126],[382-414]
2723	[1-498]
2724	[1-506]
2725	[1-890]
2726	[1-517]
2727	[1-583]
2728	[1-201],[324-569]
2729	[1-549]
2730	[1-153],[276-470]
2731	[129-279]
2732	[1-477]

Seq Id No.	Positions of preferred fragments
2733	[1-606]
2734	[121-554]
2735	[54-142]
2736	[1-485]
2737	[1-552]
2738	[1-451]
2739	[1-492]
2740	[1-549]
2741	[1-493]
2742	[1-35],[64-182],[251-453]
2743	[1-546]
2744	[1-484]
2745	[1-534]
2746	[1-491]
2747	[132-330]
2748	[1-472]
2749	[1-407]
2750	[1-607]
2751	[1-548]
2752	[1-496]
2753	[1-352]
2754	[1-447]
2755	[79-302],[465-526]
2757	[1-551]
2758	[1-476]
2759	[131-563]
2760	[1-670]
2761	[1-183]
2762	[1-241],[355-472]
2763	[1-48]
2764	[1-481]
2765	[1-509]
2766	[1-436]
2767	[1-424]
2768	[1-423]
2769	[1-556]
2770	[1-333]
2771	[1-320]
2772	[1-247],[403-506]
2773	[1-517]
2774	[1-572]
2775	[1-647]
2776	[1-504]
2777	[69-506]
2778	[1-490]
2779	[1-471]
2780	[1-502]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2781	[1-630]
2782	[133-482]
2783	[1-195],[428-488]
2784	[1-555]
2785	[1-527]
2786	[1-430]
2787	[1-527]
2788	[1-504]
2789	[1-485]
2790	[1-487]
2791	[1-483]
2792	[1-903]
2793	[1-472]
2794	[1-501]
2795	[1-455]
2796	[1-460]
2797	[1-459]
2798	[1-457]
2799	[1-462]
2800	[1-455]
2801	[1-457]
2802	[1-457]
2803	[1-456]
2804	[1-458]
2805	[1-472]
2806	[1-483]
2807	[1-474]
2808	[1-464]
2809	[1-262],[316-605]
2810	[1-510]
2811	[1-499]
2812	[1-515]
2813	[1-832]
2814	[1-41],[98-552]
2815	[1-33],[200-407]
2816	[1-31]
2817	[1-494]
2818	[1-253]
2819	[1-529]
2820	[1-1035]
2821	[1-492]
2822	[1-509]
2823	[1-515]
2824	[1-524]
2825	[138-524]
2826	[218-469]
2827	[1-476]

Seq Id No.	Positions of preferred fragments
2828	[1-516]
2829	[1-152]
2830	[1-535]
2831	[1-421]
2832	[1-625]
2833	[1-461]
2834	[1-444]
2835	[1-400]
2836	[1-542]
2837	[1-467]
2838	[1-517]
2839	[1-469]
2840	[1-414]
2841	[1-284]
2842	[1-453]
2843	[50-473]
2844	[1-88],[201-305]
2845	[1-192],[493-567]
2846	[1-158]
2847	[1-72]
2848	[1-158]
2849	[1-521]
2850	[1-453]
2851	[1-470]
2852	[1-512]
2853	[1-483]
2854	[1-522]
2855	[1-527]
2856	[1-528]
2857	[1-444]
2858	[1-496]
2859	[1-488]
2860	[1-510]
2861	[1-486]
2862	[1-490]
2863	[1-330],[437-536]
2864	[1-495]
2865	[1-497]
2866	[1-494]
2867	[1-539]
2868	[1-713]
2869	[1-476]
2870	[69-145],[267-531]
2871	[69-145],[267-468]
2872	[49-496]
2873	[1-524]
2874	[1-486]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2875	[1-494]
2876	[1-486]
2877	[1-706]
2878	[1-531]
2879	[1-502]
2880	[1-482]
2881	[1-575]
2882	[1-543]
2883	[1-456]
2884	[1-560]
2885	[1-478]
2886	[1-36]
2887	[1-503]
2888	[102-166]
2889	[1-467]
2890	[174-331],[399-482]
2891	[1-489]
2892	[65-284],[329-499]
2893	[1-459]
2894	[1-547]
2895	[1-76],[223-459]
2896	[1-296],[349-644]
2897	[1-463]
2898	[1-527]
2899	[1-511]
2900	[1-390],[451-486]
2901	[1-284]
2902	[1-721]
2903	[1-269]
2904	[1-506]
2905	[1-474]
2906	[1-387]
2907	[1-523]
2908	[1-539]
2909	[1-255]
2910	[1-471]
2911	[1-531]
2912	[1-475]
2913	[1-483]
2914	[1-122],[320-571]
2915	[1-495]
2916	[1-453]
2917	[77-368]
2918	[1-236]
2919	[1-519]
2920	[1-454]
2921	[1-392],[452-492]

Seq Id No.	Positions of preferred fragments
2922	[1-518]
2923	[1-504]
2924	[1-615]
2925	[1-514]
2926	[1-483]
2927	[1-577]
2928	[1-489]
2929	[1-474]
2930	[1-466]
2931	[1-199],[376-709]
2932	[1-581]
2933	[1-300],[342-407],[455-530]
2934	[1-218],[410-486]
2935	[221-471]
2936	[1-464]
2937	[1-515]
2938	[57-264],[439-772]
2939	[35-103],[240-278]
2940	[1-199],[376-687]
2941	[1-440]
2942	[1-179],[215-518]
2943	[1-509]
2944	[1-465]
2945	[1-543]
2946	[1-402]
2947	[226-296]
2948	[1-233],[340-498]
2949	[46-505]
2950	[1-540]
2951	[1-506]
2952	[1-525]
2953	[1-272]
2954	[1-519]
2955	[1-395]
2956	[1-251]
2957	[1-257]
2958	[1-462]
2959	[1-590]
2960	[1-271]
2961	[1-371]
2962	[1-499]
2963	[1-539]
2964	[1-499]
2965	[80-452]
2966	[1-452]
2968	[1-97],[411-575]
2969	[1-520]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
2970	[1-447],[508-534]
2971	[1-491]
2972	[1-477]
2973	[1-119]
2974	[36-517]
2975	[1-611]
2976	[1-470]
2977	[1-398]
2978	[1-517]
2979	[1-491]
2980	[1-484]
2981	[140-291],[399-577]
2982	[51-555]
2983	[1-507]
2984	[1-349]
2985	[1-783]
2986	[128-502]
2987	[1-342]
2988	[1-272]
2989	[1-478]
2990	[1-482]
2991	[1-515]
2992	[1-480]
2993	[1-476]
2994	[1-499]
2995	[1-509]
2996	[49-466]
2997	[1-486]
2998	[1-546]
2999	[1-345]
3000	[1-482]
3001	[1-26]
3002	[1-483]
3003	[1-518]
3004	[1-393]
3005	[1-61],[354-557]
3006	[1-388]
3007	[1-548]
3008	[1-513]
3009	[1-491]
3010	[138-507]
3011	[1-674]
3012	[1-505]
3013	[1-557]
3014	[1-467]
3015	[1-338]
3016	[1-513]

Seq Id No.	Positions of preferred fragments
3017	[1-469]
3018	[1-531]
3019	[1-390],[452-610]
3020	[119-466]
3021	[1-530]
3022	[1-436]
3023	[1-494]
3024	[1-488]
3025	[471-582]
3026	[1-355]
3027	[1-807]
3028	[1-254]
3029	[1-533]
3030	[1-505]
3031	[1-520]
3032	[1-585]
3033	[76-420]
3034	[1-407]
3035	[1-156]
3036	[1-375]
3037	[1-462]
3038	[1-510]
3039	[1-139],[260-483]
3040	[1-93],[149-409]
3041	[1-524]
3042	[1-504]
3043	[1-486]
3044	[1-491]
3045	[1-519]
3046	[1-477]
3047	[1-523],[661-691]
3048	[1-465]
3049	[177-300],[367-563]
3050	[1-515]
3051	[1-642]
3052	[160-751]
3053	[1-418],[760-787]
3054	[1-386]
3055	[1-561]
3056	[1-233]
3057	[1-468]
3058	[1-558]
3059	[1-481]
3060	[1-494]
3061	[1-523]
3062	[1-537]
3063	[1-470]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3064	[1-519]
3065	[1-494]
3066	[1-456]
3067	[1-561]
3068	[1-116],[184-340],[408-463]
3069	[1-513]
3070	[1-484]
3071	[1-473]
3072	[1-297]
3073	[1-56],[156-200],[243-506]
3074	[1-484]
3075	[125-459]
3076	[1-500]
3077	[1-44]
3078	[1-419]
3079	[1-456]
3080	[1-500]
3081	[1-566]
3082	[1-529]
3083	[1-463]
3084	[1-528]
3085	[1-279]
3086	[1-513]
3087	[290-392]
3088	[290-398]
3091	[290-400]
3092	[290-396]
3093	[1-49],[165-490]
3094	[1-505]
3095	[1-552]
3096	[1-185],[270-508]
3097	[1-263],[378-476]
3098	[1-155]
3099	[1-533]
3100	[1-340]
3101	[80-187],[332-404]
3102	[1-450]
3103	[1-490]
3104	[1-501]
3105	[1-482]
3106	[1-557]
3107	[166-542]
3108	[1-451]
3109	[1-484]
3110	[1-428]
3111	[1-491]
3112	[1-480]
3113	[1-451]
3114	[1-525]
3115	[1-475]
3116	[1-445]
3117	[1-498]
3118	[1-509]
3119	[1-284]
3120	[1-494]
3121	[232-436],[604-632]
3122	[232-616]
3123	[1-483]
3124	[1-479]
3125	[1-492]
3126	[1-707]
3127	[372-503]
3128	[146-479]
3129	[1-464]
3130	[1-497]
3131	[1-316]
3132	[1-464]
3133	[1-58],[93-546]
3134	[1-52],[87-556]
3135	[56-452]
3136	[1-52],[87-460]
3137	[1-341]
3138	[1-489]
3139	[1-408]
3140	[1-457]
3141	[1-549]
3142	[1-438]
3143	[1-513]
3144	[1-336],[505-548]
3145	[69-238],[286-725]
3146	[1-476]
3147	[1-500]
3148	[1-462]
3149	[1-523]
3150	[1-864]
3151	[1-655]
3152	[1-484]
3153	[1-459]
3154	[1-526]
3155	[1-505]
3156	[308-605]
3157	[1-238],[368-409]
3158	[1-156],[251-482]
3159	[172-238],[368-471]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3160	[1-326],[373-494]
3161	[1-238],[368-451]
3162	[1-494]
3163	[1-478]
3164	[1-508]
3165	[1-498]
3166	[84-111]
3167	[1-350]
3168	[1-471]
3169	[1-490]
3170	[1-563]
3171	[1-409]
3172	[1-172],[218-470],[596-826]
3173	[1-455]
3174	[1-465]
3175	[1-484]
3176	[1-45],[106-273],[307-482]
3177	[1-482]
3178	[1-497]
3179	[1-485]
3180	[1-401]
3181	[1-246],[372-442],[488-517]
3182	[1-577]
3183	[1-84],[149-207],[320-451]
3184	[1-394]
3185	[1-556]
3186	[1-539]
3188	[1-444]
3189	[1-225]
3190	[1-530]
3191	[1-452]
3192	[1-527]
3193	[1-757]
3194	[1-503]
3195	[1-486]
3196	[161-390],[420-489]
3197	[1-494]
3198	[1-336]
3199	[1-328]
3200	[1-484]
3201	[1-463]
3202	[1-473]
3203	[1-85],[379-419]
3204	[1-443]
3205	[1-533]
3206	[1-464]
3207	[1-521]
3208	[71-222],[344-465]
3209	[1-505]
3210	[58-380]
3211	[1-578]
3212	[1-461]
3213	[1-444]
3214	[1-457]
3215	[1-474]
3216	[1-458]
3217	[1-526]
3218	[1-517]
3219	[1-509]
3220	[1-461]
3221	[1-492]
3222	[1-347]
3223	[1-517]
3224	[1-473]
3225	[1-497]
3226	[1-601]
3227	[1-516]
3228	[1-513]
3229	[1-525]
3230	[1-103],[448-548]
3231	[1-103],[381-440]
3232	[1-523]
3233	[1-399]
3234	[197-532]
3235	[1-436]
3236	[540-580]
3237	[1-499]
3238	[342-587]
3239	[1-748]
3240	[1-468]
3241	[1-690]
3242	[1-92],[172-266],[359-525]
3243	[1-466]
3244	[1-504]
3245	[1-597]
3246	[1-460]
3247	[1-565]
3248	[1-80],[128-432]
3249	[1-314]
3250	[1-503]
3251	[1-456]
3252	[1-344]
3253	[1-474]
3254	[1-552]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3255	[1-315],[368-482]
3256	[1-463]
3257	[1-496]
3258	[1-533]
3259	[1-464]
3260	[1-429]
3261	[1-462]
3262	[1-134],[180-330]
3263	[1-321]
3264	[401-469]
3265	[1-460]
3266	[1-511]
3267	[1-425]
3268	[1-453]
3269	[1-503]
3270	[1-415]
3271	[167-292],[367-412],[465-529]
3272	[1-353]
3273	[1-401]
3274	[1-447]
3275	[1-461]
3276	[1-628]
3277	[1-29],[117-475]
3278	[1-476]
3279	[1-527]
3280	[1-185],[392-505]
3281	[1-513]
3282	[1-486]
3283	[1-555]
3284	[1-471]
3285	[1-48]
3286	[1-526]
3287	[1-479]
3288	[1-482]
3289	[40-218],[440-489]
3290	[1-176],[221-318],[355-489]
3291	[1-270]
3292	[1-176],[221-318],[355-435]
3293	[1-460]
3294	[1-450]
3295	[273-513]
3296	[1-461]
3297	[1-432]
3298	[1-32],[70-360]
3299	[1-459]
3300	[1-450]
3301	[1-542]
3302	[1-418]
3303	[1-462]
3304	[1-406]
3305	[101-460]
3306	[1-478]
3307	[1-471]
3308	[1-524]
3309	[1-309]
3310	[1-358]
3311	[1-444]
3312	[1-932]
3313	[1-549]
3314	[105-472]
3315	[1-497]
3316	[1-511]
3317	[1-414]
3318	[1-117],[159-289]
3319	[1-217],[334-476]
3320	[1-416]
3321	[1-212],[329-471]
3322	[1-133],[218-473]
3323	[1-254],[406-479]
3324	[1-294]
3325	[1-485]
3326	[1-451]
3327	[1-515]
3328	[1-527]
3329	[1-74],[148-199],[318-481]
3330	[1-74],[148-199],[318-370]
3331	[1-528]
3332	[1-465]
3333	[1-389]
3334	[1-151],[206-348]
3335	[1-479]
3336	[1-452]
3337	[1-846]
3338	[1-386]
3339	[1-474]
3340	[1-431]
3341	[1-505]
3342	[1-464]
3343	[1-441],[480-596]
3344	[1-496]
3345	[1-550]
3346	[78-123],[326-466]
3347	[78-351]
3348	[1-286]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3349	[1-527]
3350	[1-320]
3351	[1-506]
3353	[1-461]
3354	[1-263]
3355	[1-415]
3356	[1-408]
3357	[1-532]
3358	[1-147],[379-475]
3359	[1-413]
3360	[1-249],[296-593]
3361	[1-509]
3362	[1-82],[296-699]
3363	[1-82],[296-579]
3364	[1-82],[296-612]
3365	[224-385]
3366	[1-516]
3367	[231-447]
3368	[1-118],[197-568]
3369	[1-152],[232-397]
3370	[1-501]
3371	[1-508]
3372	[1-384]
3373	[1-414]
3374	[1-467]
3375	[1-544]
3376	[1-560]
3377	[1-424]
3378	[1-528]
3379	[1-461]
3380	[1-490]
3381	[1-487]
3382	[1-738]
3383	[43-486]
3384	[1-162],[332-560]
3385	[1-421]
3386	[1-456]
3387	[1-480]
3388	[1-579]
3389	[1-566]
3390	[1-452]
3391	[144-302],[436-526]
3392	[1-478]
3393	[1-341]
3394	[1-465]
3395	[1-469]
3396	[1-316]
3397	[1-477]
3398	[1-451]
3399	[1-468]
3400	[1-431]
3401	[1-461]
3402	[1-319]
3403	[1-471]
3404	[1-482]
3405	[1-508]
3406	[1-726]
3407	[1-170],[209-459]
3408	[1-455]
3409	[1-450]
3410	[1-451]
3411	[1-417],[451-495]
3412	[1-484]
3413	[1-390]
3414	[1-473]
3415	[1-585]
3416	[1-100],[130-519]
3417	[1-547]
3418	[1-509]
3419	[1-519]
3420	[1-436]
3421	[1-472]
3422	[1-594]
3423	[1-429]
3424	[1-386]
3425	[1-442]
3426	[1-431]
3427	[1-484]
3428	[91-455]
3429	[243-363]
3430	[1-804]
3431	[1-524]
3432	[1-479]
3433	[1-473]
3434	[1-489]
3435	[1-588]
3436	[1-475]
3437	[1-462]
3438	[1-556]
3439	[1-449]
3440	[1-608]
3441	[1-453]
3442	[1-450]
3443	[1-143],[285-515]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3444	[1-439]
3445	[1-168]
3446	[1-741]
3447	[1-495]
3448	[1-518]
3449	[1-508]
3450	[1-503]
3451	[1-452]
3452	[1-413]
3453	[1-325]
3454	[51-283]
3455	[1-540]
3456	[1-450]
3457	[1-571]
3458	[1-478]
3459	[1-565]
3460	[1-543]
3461	[130-183],[218-365],[413-461]
3462	[51-546]
3463	[1-577]
3464	[1-481]
3465	[1-526]
3466	[1-75],[168-586],[667-778],[815-875]
3467	[1-99],[272-314],[386-412]
3468	[33-546]
3469	[33-495]
3470	[1-484]
3471	[1-512]
3472	[1-492]
3473	[1-438]
3474	[1-133],[250-512]
3475	[1-497]
3476	[1-511]
3477	[1-528]
3478	[1-498]
3479	[1-478]
3480	[1-531]
3481	[1-539]
3482	[1-661]
3483	[1-556]
3484	[1-518]
3485	[1-546]
3486	[1-478]
3487	[1-561]
3488	[1-478]
3489	[1-527]
3490	[1-70],[99-284],[337-482]

Seq Id No.	Positions of preferred fragments
3491	[30-83],[112-561]
3492	[30-82],[111-522]
3493	[1-477]
3494	[1-494]
3495	[183-533]
3496	[1-470]
3497	[118-520]
3498	[1-684]
3499	[1-465]
3500	[1-609]
3501	[1-511]
3502	[1-490]
3503	[1-513]
3504	[1-394]
3505	[220-502]
3506	[268-394],[425-478]
3507	[1-497]
3508	[1-470]
3509	[1-98],[149-557]
3510	[1-25],[64-96],[147-495]
3511	[1-57],[408-477]
3512	[1-492]
3513	[1-461]
3514	[259-469]
3515	[267-325]
3516	[1-255]
3517	[1-297]
3518	[1-754]
3519	[1-657]
3520	[1-490]
3521	[1-517]
3522	[1-530]
3523	[1-503]
3524	[1-545]
3525	[1-572]
3526	[1-457]
3527	[1-614]
3528	[1-36],[119-502]
3529	[1-182],[261-288],[384-476]
3530	[1-454]
3531	[1-385]
3532	[1-511]
3533	[1-421]
3534	[184-218]
3535	[1-482]
3536	[1-428]
3537	[1-424]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3538	[1-495]
3539	[1-498]
3540	[1-500]
3541	[1-293]
3542	[1-526]
3543	[1-520]
3544	[1-406]
3545	[1-281]
3546	[1-466]
3547	[1-470]
3548	[1-496]
3549	[1-475]
3550	[1-401]
3551	[1-494]
3552	[1-43],[99-490]
3553	[1-210],[339-523]
3554	[1-234]
3555	[1-118],[312-664]
3556	[1-118],[312-581]
3557	[1-244]
3558	[1-462]
3559	[1-548]
3560	[1-461]
3561	[1-540]
3562	[1-453]
3563	[1-465]
3564	[1-553]
3565	[1-138],[301-491]
3566	[1-138],[301-494]
3567	[1-459]
3568	[1-379],[491-538]
3569	[1-441],[553-595]
3570	[1-265]
3571	[1-404]
3572	[1-401],[513-555]
3573	[1-504]
3574	[1-557]
3575	[1-494]
3576	[1-282]
3577	[1-313]
3579	[1-308]
3580	[1-407]
3582	[1-296]
3583	[1-516]
3584	[1-162]
3585	[1-396]
3586	[1-472]
3587	[153-489]
3588	[1-558]
3589	[1-637]
3590	[1-477]
3591	[1-459]
3592	[101-135],[211-502]
3593	[56-492]
3594	[1-512]
3595	[1-571]
3596	[1-482]
3597	[1-70]
3598	[49-415],[601-756],[786-826]
3599	[1-656]
3600	[1-157],[210-236],[284-477]
3601	[1-150],[203-394]
3602	[1-480]
3603	[1-460]
3604	[1-441]
3605	[1-486]
3606	[1-469]
3607	[1-488]
3608	[1-501]
3609	[1-638]
3610	[1-490]
3611	[1-453]
3612	[1-204],[383-550],[610-642]
3613	[1-377]
3614	[217-493]
3615	[1-194],[239-491]
3616	[1-549]
3617	[1-489]
3618	[1-753]
3619	[1-393]
3620	[1-482]
3621	[1-299]
3622	[1-479]
3623	[1-505]
3624	[1-479]
3625	[1-422]
3626	[1-407]
3627	[1-32],[289-553]
3628	[1-522]
3629	[1-821]
3630	[1-319]
3631	[476-500]
3632	[253-476]
3633	[1-464]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3634	[1-408]
3635	[1-483]
3636	[165-419]
3637	[1-488]
3638	[1-474]
3639	[1-486]
3640	[1-404]
3641	[1-452]
3642	[1-484]
3643	[1-295]
3644	[1-485]
3645	[1-474]
3646	[59-258],[416-473]
3647	[1-527]
3648	[1-490]
3649	[1-536]
3650	[1-484]
3651	[1-494]
3652	[1-381]
3653	[1-501]
3654	[1-595]
3655	[1-490]
3656	[1-30],[271-459]
3657	[51-457]
3658	[1-456]
3659	[1-112],[333-495]
3660	[1-296],[355-423]
3661	[1-97],[225-297]
3662	[1-362]
3663	[1-1043]
3664	[1-82],[177-445],[497-536]
3665	[1-94],[222-294],[324-385]
3666	[1-81],[176-444],[496-567]
3667	[323-397]
3668	[1-367],[413-467]
3669	[1-94],[222-294],[324-385]
3670	[1-71],[322-550]
3671	[1-110],[288-400]
3673	[1-110],[359-400]
3674	[1-426]
3675	[1-110],[359-400]
3676	[1-586]
3677	[70-368],[414-465]
3678	[1-471]
3679	[1-524]
3680	[1-941]
3682	[1-336]

Seq Id No.	Positions of preferred fragments
3683	[1-243],[411-479]
3684	[1-370],[482-508]
3685	[1-427]
3686	[1-392]
3687	[1-532]
3688	[1-471]
3689	[1-525]
3690	[1-513]
3691	[1-564]
3692	[116-323],[363-452]
3693	[1-473]
3694	[1-461]
3695	[1-422]
3696	[1-365]
3697	[1-469]
3698	[1-485]
3699	[1-245],[357-716]
3700	[1-526]
3701	[1-572]
3702	[1-543]
3703	[1-503]
3704	[1-485]
3705	[42-215]
3706	[1-499]
3707	[1-400]
3708	[1-633]
3709	[1-504]
3710	[1-560]
3711	[1-261],[291-461]
3712	[1-479]
3713	[1-499]
3714	[1-480]
3715	[1-507]
3716	[1-771]
3717	[1-599]
3718	[1-475]
3719	[1-511]
3720	[1-816]
3721	[1-469]
3722	[1-496]
3723	[1-477]
3724	[1-469]
3725	[1-60],[208-373]
3726	[1-523]
3727	[1-221],[270-579]
3728	[1-455]
3729	[1-450]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3730	[1-394]
3731	[1-494]
3732	[1-524]
3733	[1-479]
3734	[193-451]
3735	[1-377]
3736	[1-496]
3737	[1-458]
3738	[1-145],[376-564]
3739	[1-100],[129-327]
3740	[1-246]
3741	[1-387]
3742	[1-127],[160-316],[459-603]
3743	[1-613]
3744	[1-42],[129-376]
3745	[1-39],[126-268],[391-427]
3746	[1-418]
3747	[1-27],[192-487]
3748	[1-534]
3749	[1-194],[337-506]
3750	[1-71],[193-424]
3751	[1-444]
3752	[1-468]
3753	[1-557]
3754	[380-495]
3755	[62-499]
3756	[1-525]
3757	[1-473]
3758	[1-483]
3759	[1-518]
3760	[1-258]
3761	[1-63],[187-324]
3762	[1-345]
3763	[1-477]
3764	[1-96],[280-480]
3765	[1-504]
3766	[1-728]
3767	[42-149],[348-478]
3768	[1-480]
3769	[1-461]
3770	[1-460]
3771	[1-618]
3772	[220-492]
3773	[1-505]
3774	[1-60],[102-1041],[1074-1108]
3775	[1-473]
3776	[1-1100]

Seq Id No.	Positions of preferred fragments
3777	[1-516]
3778	[1-687]
3779	[1-203]
3780	[1-203],[524-555]
3781	[1-534]
3782	[1-467]
3783	[1-467]
3784	[1-484]
3785	[1-153],[388-442]
3786	[1-420]
3787	[1-505]
3788	[54-300],[384-491]
3789	[1-488]
3790	[1-495]
3791	[1-398]
3792	[1-28],[94-272]
3794	[1-124],[160-240],[292-321],[358-652]
3795	[1-217],[432-471]
3796	[1-380]
3797	[1-186],[259-473]
3799	[1-51],[487-511]
3800	[1-135]
3801	[1-462]
3802	[1-468]
3803	[1-985]
3804	[1-509]
3805	[1-400]
3806	[1-450]
3807	[1-498]
3808	[1-499]
3809	[1-590]
3810	[1-503]
3811	[1-528]
3812	[1-519]
3813	[1-518]
3814	[1-515]
3815	[1-480]
3816	[1-458]
3817	[1-329]
3818	[1-484]
3819	[1-383],[479-527]
3820	[1-94],[445-480]
3821	[1-316],[378-449]
3822	[1-569]
3823	[1-453]
3824	[1-491]
3825	[1-487]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
3826	[1-603]
3827	[1-465]
3828	[1-544]
3829	[1-294],[392-589]
3830	[1-561]
3831	[1-542]
3832	[41-456]
3833	[1-463]
3834	[1-592]
3835	[1-452]
3836	[1-298]
3837	[1-550]
3838	[68-470]
3839	[320-536]
3840	[320-508]
3841	[1-421]
3842	[1-377]
3843	[1-296]
3844	[1-252]
3845	[1-352]
3846	[149-768]
3847	[172-453]
3848	[1-106],[140-674]
3849	[1-515]
3850	[1-514]
3851	[1-514]
3852	[1-104],[138-515]
3853	[1-516]
3854	[1-519]
3855	[1-516]
3856	[1-105],[139-428]
3857	[1-105],[139-428]
3858	[1-105],[139-516]
3859	[1-515]
3860	[1-468]
3861	[1-99],[355-425]
3862	[1-508]
3863	[1-251]
3864	[1-513]
3865	[263-495]
3866	[1-470]
3867	[1-482]
3868	[1-500]
3869	[1-489]
3870	[1-503]
3871	[1-298]
3872	[1-480]
3873	[1-523]
3874	[1-613]
3875	[1-501]
3876	[1-497]
3877	[1-453]
3878	[1-275],[352-505]
3879	[1-489]
3880	[1-315],[426-707]
3881	[1-459]
3882	[1-168],[221-485]
3883	[1-231]
7744	[1-108]
7745	[1-89]
7746	[1-108]
7747	[1-108]
7748	[1-154]
7749	[1-108]
7750	[1-96]
7751	[1-153]
7752	[1-108]
7753	[1-101]
7754	[1-108]
7755	[1-113]
7756	[1-108]
7757	[1-108]
7758	[1-108]
7759	[1-406]
7760	[1-108]
7761	[1-88]
7762	[1-169]
7763	[1-108]
7764	[1-108]
7765	[1-108]
7766	[1-169]
7767	[1-108]
7768	[1-134]
7769	[1-108]
7770	[1-108]
7771	[1-108]
7772	[1-266]
7773	[1-108]
7774	[1-63]
7775	[1-299]
7776	[1-108]
7778	[1-101]
7779	[1-63]
7781	[1-108]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
7782	[1-154]
7783	[1-169]
7784	[1-108]
7785	[1-108]
7786	[1-366]
7787	[1-101]
7788	[1-444]
7789	[1-108]
7790	[1-108]
7791	[1-108]
7792	[1-339]
7793	[1-79]
7794	[1-63]
7795	[1-169]
7796	[1-108]
7798	[1-108]
7799	[1-89]
7800	[1-63]
7801	[1-150]
7802	[1-500]
7803	[1-108]
7804	[1-108]
7805	[1-108]
7806	[1-297]
7807	[1-357]
7809	[1-385]
7810	[1-53]
7811	[1-381]
7812	[1-177]
7813	[1-162]
7814	[1-319]
7815	[1-36]
7817	[1-157]
7818	[1-158]
7819	[1-205]
7820	[84-366]
7821	[1-361]
7822	[1-317]
7823	[1-343]
7824	[1-343]
7825	[1-208]
7826	[76-293]
7827	[1-242]
7828	[1-584]
7830	[1-310]
7831	[1-548]
7832	[1-328]

Seq Id No.	Positions of preferred fragments
7833	[1-505]
7834	[1-187]
7836	[1-307]
7837	[1-547]
7838	[1-263]
7839	[1-465]
7840	[1-409]
7841	[1-307]
7842	[1-515]
7843	[1-365]
7844	[1-308]
7845	[1-562]
7846	[1-488]
7847	[1-467]
7848	[1-329]
7849	[1-100]
7850	[1-100]
7851	[1-449]
7852	[1-116]
7853	[1-58]
7854	[1-81]
7855	[1-90]
7856	[1-118]
7857	[1-115]
7858	[1-73]
7859	[1-56]
7860	[1-112]
7861	[1-100]
7862	[1-184]
7863	[1-237]
7864	[1-426]
7865	[1-367]
7866	[1-256]
7867	[1-452]
7869	[70-214]
7870	[1-349]
7871	[1-177]
7872	[1-494]
7873	[1-276]
7874	[1-216]
7875	[1-106]
7876	[1-172]
7877	[1-233]
7878	[1-155]
7879	[1-83]
7880	[1-265]
7881	[1-508]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
7882	[1-363]
7883	[1-314]
7884	[1-501]
7885	[1-344]
7886	[1-455]
7887	[1-401]
7888	[1-171]
7889	[1-77]
7890	[1-328]
7891	[1-395]
7892	[1-501]
7893	[1-329]
7894	[238-419]
7895	[1-170]
7896	[1-170]
7897	[54-437]
7898	[1-475]
7899	[1-314]
7900	[1-476]
7901	[1-440]
7902	[1-357]
7903	[1-334]
7904	[1-164]
7906	[1-170]
7907	[1-170]
7908	[143-431]
7909	[1-445]
7910	[1-51]
7911	[1-479]
7912	[1-84]
7913	[1-314]
7914	[1-52]
7915	[1-123]
7916	[1-61]
7917	[1-321]
7918	[1-65]
7919	[1-271]
7920	[1-171]
7921	[1-356]
7922	[1-299]
7923	[1-354]
7924	[1-455]
7925	[1-425]
7926	[1-83]
7927	[1-313]
7928	[1-314]
7929	[1-313]

Seq Id No.	Positions of preferred fragments
7930	[1-328]
7931	[1-483]
7932	[1-125]
7933	[1-314]
7934	[1-294]
7935	[1-408]
7936	[1-279]
7937	[1-65]
7938	[1-270]
7939	[1-369]
7940	[1-263]
7941	[141-320]
7942	[1-315]
7943	[1-458]
7944	[1-309]
7945	[1-238]
7946	[1-336]
7947	[1-166]
7948	[1-140]
7949	[1-316]
7950	[1-412]
7951	[1-431]
7952	[1-83]
7953	[1-280]
7954	[1-171]
7955	[1-459]
7956	[1-391]
7957	[1-384]
7958	[1-171]
7959	[1-397]
7960	[1-244]
7961	[1-95]
7962	[1-429]
7963	[1-334]
7964	[1-293]
7965	[212-442]
7966	[1-152]
7967	[1-86]
7968	[1-330]
7969	[165-442]
7970	[1-67]
7971	[1-206]
7972	[1-73]
7973	[1-332]
7974	[1-449]
7976	[1-270]
7977	[1-172]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
7978	[1-321]
7979	[1-170]
7982	[1-328]
7983	[1-58]
7984	[1-422]
7985	[1-113]
7986	[1-163]
7987	[76-312]
7988	[1-171]
7989	[1-192]
7990	[1-171]
7991	[1-519]
7992	[1-67]
7993	[1-185]
7994	[1-171]
7995	[1-436]
7996	[1-171]
7997	[1-176]
7998	[1-429]
7999	[1-68]
8000	[1-385]
8001	[1-324]
8002	[1-481]
8003	[1-481]
8004	[1-421]
8005	[1-333]
8006	[1-58]
8007	[1-475]
8008	[1-283],[367-435]
8009	[1-314]
8010	[1-337]
8011	[1-310]
8012	[1-60]
8013	[1-376]
8014	[1-463]
8015	[1-329]
8016	[1-60]
8017	[1-408]
8018	[1-103]
8019	[1-73]
8020	[1-96]
8021	[1-121]
8022	[1-67]
8023	[1-58]
8024	[1-164]
8025	[1-104]
8027	[1-163]

Seq Id No.	Positions of preferred fragments
8028	[1-103]
8030	[1-104]
8031	[1-104]
8032	[1-104]
8033	[1-77]
8034	[1-74]
8035	[1-104]
8036	[1-58]
8037	[1-104]
8038	[1-90]
8039	[1-65]
8040	[1-166]
8041	[1-103]
8042	[1-79]
8043	[1-103]
8044	[1-150]
8045	[1-360]
8046	[1-104]
8047	[1-71]
8048	[1-92]
8049	[1-103]
8050	[1-103]
8051	[1-132]
8052	[1-92]
8053	[1-103]
8054	[1-103]
8055	[1-88]
8056	[1-103]
8057	[1-57]
8058	[1-191]
8059	[1-75]
8060	[1-365]
8061	[1-65]
8062	[1-58]
8063	[1-335]
8064	[1-198]
8065	[1-165]
8066	[1-104]
8067	[1-165]
8068	[1-104]
8069	[1-84]
8070	[1-164]
8071	[1-235]
8072	[1-104]
8073	[1-177]
8074	[1-165]
8075	[1-104]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8076	[1-58]
8077	[1-454]
8078	[1-103]
8080	[1-103]
8081	[1-127]
8082	[1-102]
8083	[139-170]
8084	[1-103]
8085	[1-146]
8086	[1-164]
8087	[1-103]
8088	[1-103]
8089	[1-58]
8090	[1-97]
8092	[1-103]
8093	[1-67]
8094	[1-114]
8095	[1-67]
8096	[1-58]
8097	[1-61]
8098	[1-74]
8099	[1-377]
8100	[1-148]
8102	[1-58]
8103	[1-58]
8104	[1-55]
8105	[1-234]
8106	[1-102]
8107	[1-95]
8108	[1-72]
8109	[1-147]
8110	[1-103]
8111	[1-104]
8112	[1-138]
8113	[1-103]
8114	[1-103]
8115	[1-104]
8116	[1-103]
8117	[1-58]
8118	[1-164]
8119	[1-58]
8120	[1-75]
8121	[1-76]
8123	[1-104]
8124	[1-58]
8125	[1-210],[371-399]
8126	[1-29]

Seq Id No.	Positions of preferred fragments
8127	[1-165]
8128	[1-104]
8129	[1-236]
8130	[1-317]
8131	[42-463]
8132	[1-54]
8133	[1-352]
8134	[1-390]
8135	[1-441]
8136	[1-528]
8137	[1-243]
8138	[1-368]
8140	[1-407]
8141	[1-390]
8143	[36-151],[474-499]
8144	[1-537]
8145	[1-266]
8147	[1-414]
8148	[71-460]
8149	[80-428]
8150	[1-412]
8151	[1-160]
8152	[1-165]
8153	[1-111]
8154	[1-395]
8155	[1-445]
8156	[1-407]
8159	[1-170],[200-396]
8160	[66-377]
8161	[1-385]
8162	[1-367]
8163	[1-153]
8164	[1-385]
8165	[1-89]
8166	[1-325]
8167	[1-433]
8168	[1-423]
8170	[1-399]
8171	[1-56]
8172	[1-72]
8173	[34-425]
8174	[1-444]
8175	[1-403]
8176	[296-338]
8177	[1-438]
8178	[1-298]
8179	[1-292]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8180	[1-153]
8181	[1-352]
8182	[1-70]
8183	[1-347]
8184	[1-382]
8185	[1-318]
8186	[1-383]
8187	[1-430]
8188	[1-370]
8189	[1-157],[192-283]
8190	[51-379]
8191	[1-63]
8192	[1-50]
8193	[1-310]
8194	[1-157]
8195	[1-183]
8196	[1-408]
8197	[1-460]
8198	[1-459]
8199	[1-447]
8200	[1-62]
8201	[1-398]
8202	[1-448]
8203	[1-429]
8204	[1-344]
8205	[1-29],[59-85]
8206	[1-321]
8207	[1-452]
8208	[1-185]
8209	[239-490]
8210	[1-297]
8211	[1-167]
8212	[1-403]
8213	[1-466]
8214	[1-389]
8215	[1-428]
8216	[185-403]
8217	[1-368]
8218	[1-197]
8219	[1-377]
8220	[66-386]
8221	[1-50]
8222	[1-359]
8223	[1-468]
8224	[1-407]
8225	[1-83]
8226	[1-473]
8227	[1-535]
8228	[1-378]
8229	[1-432]
8230	[1-404]
8231	[1-72]
8232	[35-410]
8233	[1-356]
8234	[1-122]
8235	[1-452]
8236	[1-155]
8237	[1-432]
8238	[1-444]
8239	[297-445]
8240	[1-455]
8241	[1-189]
8242	[1-65],[180-221],[388-450]
8243	[1-243]
8244	[1-463]
8245	[1-446]
8246	[1-473]
8247	[1-549]
8248	[1-506]
8249	[1-525]
8250	[1-435]
8251	[1-413]
8252	[1-299]
8253	[1-350]
8254	[1-430]
8255	[1-230]
8257	[1-63]
8258	[1-275],[352-393]
8259	[1-420]
8260	[1-438]
8261	[1-419]
8262	[1-319]
8263	[1-89]
8264	[1-139]
8265	[1-188]
8266	[1-371]
8267	[1-447]
8268	[1-402]
8269	[1-467]
8270	[1-97],[231-342]
8271	[1-374]
8272	[1-196]
8273	[1-468]
8274	[1-374]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
8275	[1-395]	8323	[1-353]
8276	[1-498]	8324	[1-459]
8277	[1-240]	8325	[1-307]
8278	[34-479]	8326	[40-412]
8279	[1-160],[230-413]	8327	[1-277]
8281	[1-180]	8328	[1-378]
8282	[1-62]	8329	[1-360]
8283	[1-442]	8330	[1-349]
8284	[1-480]	8331	[1-457]
8285	[1-234],[269-404]	8332	[1-90]
8286	[1-202]	8333	[1-167]
8287	[1-353]	8334	[1-386]
8288	[1-296]	8335	[1-389]
8289	[1-316]	8336	[1-356]
8290	[1-290]	8337	[1-56]
8291	[1-327]	8338	[1-311]
8292	[1-326],[394-457]	8339	[143-289]
8293	[1-241]	8340	[1-289]
8294	[1-287]	8341	[1-440]
8295	[1-218]	8342	[48-391]
8296	[1-292]	8343	[1-422]
8297	[1-280]	8344	[1-189],[218-363]
8298	[1-100]	8345	[1-359]
8299	[1-244],[283-339]	8346	[1-387]
8300	[1-369]	8347	[1-304]
8301	[1-121],[198-346]	8348	[1-365]
8302	[1-168]	8349	[1-327]
8303	[1-66]	8350	[277-393]
8304	[1-106]	8351	[1-477]
8305	[1-358]	8352	[1-425]
8306	[1-425]	8353	[1-272]
8307	[1-393]	8354	[1-203]
8308	[1-338]	8355	[1-83]
8309	[1-216]	8356	[1-534]
8310	[1-333]	8357	[1-211]
8311	[1-414]	8358	[1-472]
8312	[1-228]	8359	[1-416]
8313	[1-432]	8360	[1-424]
8314	[1-107]	8361	[1-349]
8315	[1-361]	8363	[1-361]
8316	[1-41],[81-341]	8364	[1-344]
8317	[1-416]	8365	[1-180]
8318	[1-353]	8366	[1-268]
8319	[1-433]	8367	[1-370]
8320	[1-337]	8368	[1-327]
8321	[1-398]	8369	[1-360]
8322	[1-396]	8370	[1-498]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8371	[1-77]
8372	[1-389]
8373	[1-358]
8374	[1-398]
8375	[1-405]
8376	[1-143],[257-383]
8377	[1-150]
8378	[1-412]
8379	[1-378]
8380	[1-464]
8381	[1-351]
8382	[1-51]
8383	[1-159]
8384	[1-440]
8385	[1-438]
8386	[90-421]
8387	[1-401]
8389	[1-445]
8390	[1-442]
8391	[1-419]
8393	[1-463]
8394	[77-237],[300-393]
8395	[1-360]
8396	[1-314]
8397	[1-439]
8398	[1-328]
8399	[1-398]
8400	[1-96]
8401	[1-557]
8402	[1-446]
8403	[1-379]
8404	[1-155]
8406	[1-221]
8407	[1-27]
8408	[1-398]
8409	[1-229]
8410	[1-108]
8411	[1-329]
8412	[1-271]
8413	[1-492]
8414	[236-391]
8416	[1-283]
8417	[1-340]
8418	[1-226]
8420	[1-67]
8421	[1-484]
8422	[1-52]

Seq Id No.	Positions of preferred fragments
8423	[1-50]
8424	[1-312]
8425	[1-157]
8426	[1-83]
8427	[1-504]
8428	[1-395]
8429	[1-438]
8430	[1-73]
8431	[1-79]
8432	[1-232]
8434	[1-427]
8435	[1-309]
8436	[1-586]
8437	[1-423]
8438	[1-465]
8439	[1-304]
8440	[1-68]
8441	[1-125]
8442	[108-355]
8443	[1-330]
8444	[1-403]
8445	[1-419]
8446	[158-265]
8447	[1-67]
8448	[1-238]
8449	[1-449]
8451	[1-349]
8452	[1-547]
8453	[1-75]
8454	[1-268]
8455	[1-349]
8456	[1-350]
8457	[31-73]
8458	[1-378]
8460	[1-77]
8461	[1-494]
8462	[1-421]
8464	[1-369]
8465	[1-480]
8466	[1-508]
8467	[1-460]
8468	[1-466]
8469	[1-121]
8470	[1-430]
8471	[1-332]
8472	[1-445]
8473	[1-375]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8474	[1-256]
8475	[1-355]
8476	[1-342]
8477	[1-369]
8478	[1-445]
8479	[1-206]
8480	[1-138]
8481	[1-67]
8482	[1-96]
8483	[1-270]
8484	[1-317]
8485	[1-312]
8486	[1-324]
8487	[1-203]
8488	[1-355]
8489	[1-328]
8490	[1-58]
8491	[1-361]
8492	[1-109],[175-295]
8493	[1-333]
8494	[1-81]
8495	[1-395]
8496	[1-104]
8497	[1-403]
8498	[1-91]
8499	[1-226],[391-416]
8500	[1-432]
8501	[1-462]
8502	[1-451]
8503	[1-365]
8504	[1-359]
8505	[1-375]
8506	[1-364]
8507	[1-401]
8508	[1-268],[302-421]
8509	[1-429]
8510	[1-406]
8511	[1-394]
8512	[1-427]
8514	[1-396]
8515	[1-494]
8516	[1-350]
8517	[1-388]
8518	[1-322]
8519	[1-286]
8520	[1-411]
8521	[1-303]

Seq Id No.	Positions of preferred fragments
8522	[1-157]
8523	[1-354]
8524	[1-398]
8525	[1-83]
8526	[1-326]
8527	[1-315]
8528	[1-374]
8529	[1-460]
8530	[365-434]
8531	[1-114]
8532	[1-508]
8534	[1-369]
8535	[1-154]
8536	[1-433]
8537	[1-391]
8538	[1-459]
8539	[1-351]
8540	[1-423]
8541	[1-394]
8543	[1-480]
8544	[1-408]
8545	[1-302]
8546	[1-348]
8547	[1-84]
8548	[1-88]
8549	[1-183]
8550	[1-146]
8551	[1-147]
8552	[1-149]
8553	[1-167]
8554	[1-474]
8555	[1-426]
8556	[1-404]
8557	[1-318]
8558	[1-171]
8559	[1-312]
8560	[1-442]
8561	[1-318]
8562	[1-317]
8563	[1-184]
8564	[1-136]
8565	[1-307]
8566	[1-207]
8567	[1-136]
8568	[1-395]
8569	[1-152]
8570	[1-184]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8571	[1-67]
8572	[1-387]
8573	[1-191]
8574	[1-416]
8575	[1-331]
8576	[1-68]
8577	[1-483]
8578	[1-386]
8579	[1-363]
8580	[1-385]
8581	[1-202]
8583	[1-130]
8584	[1-144]
8585	[1-361]
8586	[1-439]
8587	[1-166]
8588	[1-103]
8589	[1-151]
8591	[1-362]
8592	[1-85]
8593	[1-80]
8594	[1-84]
8597	[1-144]
8598	[1-348]
8599	[1-363]
8600	[1-126]
8603	[1-132]
8605	[1-114]
8606	[1-84]
8607	[1-96]
8609	[1-73]
8611	[1-103]
8613	[1-89]
8614	[1-361]
8616	[1-361]
8617	[1-164]
8620	[1-345]
8621	[1-361]
8622	[1-58]
8623	[1-159]
8625	[1-97]
8626	[1-103]
8627	[1-506]
8628	[1-58]
8630	[1-164]
8632	[1-139]
8633	[1-103]
8635	[1-103]
8636	[1-164]
8637	[1-103]
8638	[1-361]
8639	[1-75]
8640	[1-91]
8641	[1-58]
8643	[1-361]
8644	[1-148]
8645	[1-58]
8646	[1-58]
8647	[1-361]
8649	[1-103]
8651	[1-166]
8652	[1-77]
8653	[1-51]
8654	[1-363]
8655	[1-159]
8656	[1-150]
8657	[1-359]
8658	[1-167]
8659	[1-103]
8660	[1-96]
8661	[1-103]
8663	[1-84]
8664	[1-96]
8665	[1-152]
8666	[1-84]
8667	[1-288],[405-468]
8668	[1-58]
8671	[1-116]
8672	[1-97]
8673	[1-82]
8674	[1-96]
8675	[1-222]
8677	[1-164]
8678	[1-449]
8679	[1-56]
8680	[1-73]
8681	[1-73]
8682	[1-186]
8684	[1-164]
8685	[1-103]
8687	[1-83]
8689	[1-366]
8690	[1-116]
8691	[1-79]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8692	[1-82]
8693	[1-84]
8694	[1-90]
8696	[1-513]
8697	[1-500]
8698	[1-455]
8699	[1-238]
8700	[1-565]
8701	[1-530]
8702	[1-451]
8703	[1-271]
8704	[1-447]
8705	[111-141]
8706	[1-500]
8707	[1-485]
8708	[1-483]
8709	[1-48],[153-433]
8710	[1-260]
8711	[1-251]
8712	[1-115]
8713	[1-447]
8714	[1-431]
8715	[1-454]
8716	[1-73],[161-222]
8717	[1-309]
8718	[1-384]
8719	[1-375]
8720	[77-251]
8721	[1-236]
8722	[1-329]
8723	[1-159]
8724	[1-342]
8725	[1-74]
8726	[1-199]
8727	[1-390]
8728	[1-28],[78-322]
8730	[1-201]
8731	[1-178]
8732	[1-291],[408-465]
8733	[1-172]
8734	[1-384]
8735	[1-78]
8736	[1-52]
8738	[1-294]
8739	[1-398]
8740	[1-337]
8741	[1-239]
8742	[1-283],[400-455]
8743	[1-377]
8744	[1-287]
8745	[1-284]
8746	[1-319]
8747	[1-327]
8748	[1-322]
8749	[1-81]
8750	[1-409]
8751	[1-476]
8752	[1-354]
8753	[1-327]
8754	[1-422]
8755	[1-150]
8756	[1-94]
8757	[1-148]
8758	[1-402]
8759	[1-289]
8760	[1-314]
8761	[1-154]
8762	[1-203]
8763	[1-374]
8764	[58-360]
8765	[1-384]
8766	[1-73]
8767	[1-375]
8768	[1-281],[398-448]
8769	[1-341]
8770	[1-414]
8771	[1-236]
8772	[1-386]
8773	[152-211]
8774	[1-191]
8775	[30-336]
8776	[1-273]
8777	[1-226]
8778	[1-226]
8779	[1-380]
8780	[1-215]
8781	[1-410]
8782	[1-136]
8783	[1-73]
8784	[1-139]
8785	[1-396]
8786	[1-251]
8787	[1-399]
8788	[1-509]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8789	[1-446]
8790	[1-464]
8791	[1-461]
8792	[1-235]
8793	[1-408]
8794	[1-421]
8795	[212-390]
8796	[1-159]
8797	[1-71]
8798	[1-354]
8799	[1-408]
8800	[1-295]
8801	[1-457]
8802	[1-83]
8803	[1-158]
8804	[196-530]
8805	[1-361]
8806	[1-158]
8807	[1-314]
8808	[1-448]
8809	[208-251]
8810	[1-181]
8811	[1-207]
8812	[1-408]
8813	[1-372]
8814	[1-495]
8815	[1-433]
8816	[1-471]
8817	[1-84]
8818	[1-444]
8819	[1-472]
8820	[1-384]
8821	[1-410]
8822	[1-419]
8823	[1-154],[352-477]
8824	[1-95]
8825	[1-54]
8826	[1-485]
8827	[1-434]
8828	[1-487]
8829	[1-342]
8830	[1-544]
8831	[1-74]
8832	[1-96]
8833	[1-103]
8834	[1-103]
8836	[1-103]
8837	[1-58]
8838	[1-361]
8839	[1-76]
8840	[1-71]
8841	[1-475]
8842	[1-76]
8843	[1-130]
8844	[1-103]
8845	[1-133]
8846	[1-103]
8847	[1-362]
8848	[1-103]
8849	[1-73]
8850	[1-103]
8851	[1-83]
8852	[1-103]
8853	[1-96]
8854	[1-85]
8855	[1-103]
8856	[1-103]
8857	[1-103]
8858	[1-84]
8859	[1-95]
8860	[1-58]
8861	[1-96]
8862	[1-379]
8863	[1-149]
8864	[1-103]
8865	[1-103]
8866	[1-58]
8867	[1-71]
8868	[1-103]
8869	[1-164]
8870	[1-103]
8871	[1-89]
8872	[1-381]
8873	[1-482]
8874	[1-103]
8875	[1-103]
8876	[1-95]
8877	[1-95]
8878	[1-103]
8879	[1-94]
8880	[1-96]
8881	[1-149]
8882	[1-96]
8883	[1-95]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8885	[1-442]
8886	[1-148]
8887	[1-103]
8888	[1-58]
8889	[1-103]
8890	[1-361]
8892	[1-103]
8893	[1-188]
8894	[1-103]
8895	[1-96]
8896	[1-58]
8897	[1-58]
8898	[1-103]
8899	[1-150]
8900	[1-128]
8901	[1-103]
8902	[1-84]
8903	[1-89]
8904	[1-89]
8905	[1-212]
8906	[1-96]
8907	[1-95]
8908	[1-413]
8909	[1-58]
8910	[1-58]
8911	[1-103]
8912	[1-103]
8913	[1-103]
8914	[1-104]
8915	[1-58]
8916	[1-103]
8917	[1-103]
8918	[1-103]
8919	[1-95]
8920	[1-96]
8921	[1-58]
8922	[1-73]
8923	[1-96]
8924	[1-96]
8925	[1-84]
8926	[1-103]
8927	[1-353]
8928	[1-164]
8929	[1-76]
8930	[1-361]
8931	[1-103]
8932	[1-104]

Seq Id No.	Positions of preferred fragments
8933	[1-83]
8934	[1-93],[195-239]
8935	[1-132]
8936	[1-103]
8937	[1-362]
8938	[1-103]
8939	[1-103]
8940	[1-96]
8941	[1-76]
8942	[1-149]
8943	[1-29]
8944	[1-103]
8945	[1-76]
8946	[1-392]
8947	[1-138]
8948	[1-65]
8949	[1-96]
8950	[1-95]
8951	[1-88]
8952	[1-152]
8953	[1-85]
8954	[1-96]
8955	[1-445]
8956	[1-96]
8957	[1-95]
8958	[1-103]
8959	[1-95]
8960	[1-104]
8961	[1-89]
8962	[1-90]
8963	[1-103]
8964	[1-103]
8965	[1-114]
8966	[1-256]
8967	[1-103]
8968	[1-103]
8969	[1-89]
8970	[1-103]
8971	[1-152]
8972	[1-164]
8973	[1-94]
8974	[1-103]
8975	[1-103]
8976	[1-399]
8977	[1-96]
8978	[1-103]
8979	[1-96]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
8980	[1-103]
8981	[1-92]
8982	[1-372]
8983	[1-430]
8984	[1-418]
8985	[1-482]
8986	[1-323]
8987	[1-542]
8989	[1-410]
8990	[1-247]
8991	[1-89]
8992	[1-478]
8993	[1-530]
8994	[1-522]
8995	[1-206]
8996	[1-62]
8998	[1-603]
9000	[1-169]
9001	[1-446]
9002	[1-341]
9003	[1-381]
9004	[1-171]
9005	[1-366]
9006	[1-349]
9007	[1-452]
9008	[1-425]
9009	[1-422]
9010	[1-234]
9011	[1-380]
9012	[1-468]
9013	[1-443]
9014	[1-81]
9015	[1-381]
9016	[1-515]
9017	[1-442]
9018	[1-460]
9019	[1-261]
9020	[1-411]
9021	[1-48],[113-303]
9022	[1-111],[227-281]
9023	[1-509]
9024	[1-387]
9025	[1-76]
9026	[1-472]
9027	[1-315]
9028	[1-385]
9029	[1-465]
9030	[1-470]
9031	[1-484]
9032	[1-62]
9033	[93-136]
9034	[1-422]
9035	[1-83]
9036	[1-280]
9037	[1-117]
9038	[1-72]
9039	[1-442]
9040	[1-139]
9041	[1-229],[279-523]
9042	[1-432]
9043	[1-455]
9044	[35-206]
9045	[1-372]
9046	[1-508]
9047	[1-467]
9048	[1-461]
9049	[1-232]
9050	[1-132]
9051	[1-434]
9052	[1-63]
9053	[1-366]
9054	[1-392]
9055	[1-404]
9056	[1-149]
9057	[1-386]
9058	[1-381]
9059	[1-79]
9060	[1-459]
9061	[53-358]
9062	[281-423]
9063	[1-181]
9064	[1-439]
9066	[287-455]
9067	[1-439]
9068	[1-485]
9069	[1-487]
9070	[1-361]
9071	[1-447]
9072	[1-403]
9073	[1-383]
9074	[1-463]
9075	[1-385]
9076	[1-372]
9077	[1-147]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9079	[1-223]
9080	[1-209]
9081	[1-370]
9082	[1-303]
9083	[1-511]
9084	[1-468]
9085	[1-459]
9086	[1-97]
9087	[1-498]
9088	[1-183]
9089	[1-471]
9090	[1-219]
9091	[1-448]
9092	[1-420]
9093	[1-175]
9094	[1-267]
9095	[1-156]
9096	[1-151],[237-305]
9097	[1-556]
9098	[1-429]
9099	[1-475]
9100	[1-442]
9101	[1-475]
9102	[1-460]
9103	[1-413]
9104	[1-414]
9105	[1-83],[113-248]
9106	[1-464]
9107	[1-157]
9108	[1-470]
9109	[1-251]
9110	[1-247]
9111	[1-452]
9112	[1-416]
9113	[1-444]
9114	[1-359]
9115	[1-298]
9116	[1-326]
9117	[1-312]
9118	[1-277]
9119	[1-258]
9120	[37-219],[355-494]
9121	[1-434]
9122	[1-212]
9123	[1-410]
9124	[1-286]
9125	[1-422]
9126	[1-390]
9127	[1-453]
9128	[1-496]
9129	[1-271]
9130	[1-275]
9131	[65-108]
9132	[1-170]
9133	[1-93]
9134	[1-94]
9135	[1-303]
9136	[1-235]
9137	[34-465]
9138	[1-335]
9139	[1-380]
9140	[1-294]
9141	[1-184],[262-477]
9142	[1-359]
9143	[1-366]
9144	[1-373]
9145	[1-350]
9146	[36-102]
9147	[1-412]
9148	[1-422]
9149	[1-447]
9150	[1-432]
9151	[1-369]
9152	[52-432]
9153	[1-398]
9154	[1-439]
9155	[1-56]
9156	[1-423]
9157	[1-426]
9158	[1-432]
9159	[1-433]
9160	[1-392]
9161	[1-436]
9162	[1-52]
9163	[1-367]
9164	[1-395]
9165	[1-464]
9166	[1-190]
9167	[1-168]
9168	[1-401]
9169	[1-385]
9170	[1-469]
9171	[1-404]
9172	[1-424]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9173	[1-350]
9174	[1-390]
9175	[1-473]
9176	[1-428]
9177	[1-384]
9178	[1-470]
9179	[1-435]
9180	[1-185]
9181	[1-424]
9182	[1-435]
9183	[1-427]
9184	[1-422]
9185	[1-392]
9186	[1-191]
9187	[1-411]
9188	[1-460]
9189	[1-426]
9190	[1-308]
9191	[1-380]
9192	[67-313]
9194	[1-371]
9195	[1-167]
9196	[1-283]
9197	[1-418]
9198	[1-383]
9199	[1-40]
9200	[1-446]
9201	[1-420]
9202	[1-442]
9203	[1-414]
9204	[1-423]
9205	[1-149]
9206	[1-89]
9207	[1-378]
9209	[1-448]
9210	[1-283],[325-434]
9212	[1-361]
9213	[1-457]
9214	[1-388]
9215	[1-429]
9216	[1-56]
9217	[1-465]
9218	[1-261],[326-684]
9219	[1-448]
9220	[1-225]
9221	[1-452]
9222	[1-451]

Seq Id No.	Positions of preferred fragments
9223	[1-449]
9224	[1-277]
9225	[1-97]
9226	[1-355]
9228	[1-83],[218-371]
9229	[82-384]
9230	[1-379]
9231	[1-409]
9232	[1-408]
9233	[1-427]
9234	[1-425]
9235	[1-438]
9236	[1-435]
9237	[1-88]
9238	[1-455]
9240	[1-76],[232-377]
9241	[1-483]
9242	[1-496]
9243	[1-214]
9244	[1-439]
9245	[1-472]
9246	[1-409]
9247	[1-398]
9248	[1-387]
9250	[1-203]
9251	[1-440]
9252	[1-163]
9253	[1-142]
9254	[161-441]
9255	[1-402]
9256	[1-531]
9257	[1-402]
9258	[1-461]
9259	[1-504]
9260	[1-291]
9261	[1-590]
9262	[1-519]
9263	[1-466]
9264	[1-455]
9265	[1-491]
9266	[1-534]
9267	[1-252]
9268	[1-487]
9269	[1-357]
9270	[1-424]
9271	[1-578]
9272	[1-471]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9273	[1-449]
9274	[1-305]
9275	[1-450]
9276	[1-419]
9277	[1-398]
9278	[1-447]
9279	[1-512]
9280	[1-178]
9281	[1-368]
9282	[1-457]
9283	[164-208]
9284	[1-417]
9285	[1-347]
9286	[1-438]
9287	[1-126]
9288	[1-495]
9289	[1-485]
9290	[1-239]
9291	[1-431]
9292	[1-463]
9293	[1-426]
9294	[1-444]
9295	[1-463]
9296	[1-342]
9297	[125-448]
9298	[1-271]
9299	[1-299]
9300	[1-85]
9301	[1-433]
9302	[1-293]
9303	[1-385]
9304	[1-451]
9305	[1-444]
9306	[1-510]
9307	[1-420]
9308	[1-96],[145-281],[312-414]
9309	[1-535]
9310	[1-534]
9311	[1-370]
9312	[1-484]
9313	[1-538]
9314	[1-81]
9315	[1-443]
9316	[1-440]
9317	[1-441]
9319	[1-424]
9320	[1-446]

Seq Id No.	Positions of preferred fragments
9321	[58-265]
9322	[1-390]
9323	[1-217]
9324	[1-258]
9326	[1-369]
9327	[1-452]
9328	[1-336]
9329	[1-428]
9330	[1-90]
9331	[1-437]
9332	[1-425]
9333	[1-234]
9334	[1-472]
9335	[1-166]
9336	[1-381]
9337	[1-425]
9338	[1-447]
9339	[1-483]
9340	[1-446]
9341	[1-447]
9342	[1-399]
9343	[1-202]
9344	[1-432]
9345	[1-138]
9346	[1-420]
9347	[1-422]
9348	[1-107]
9349	[1-430]
9350	[1-513]
9351	[1-470]
9352	[1-477]
9353	[1-490]
9354	[1-443]
9355	[1-415]
9356	[1-443]
9357	[1-389]
9358	[1-475]
9359	[1-385]
9360	[1-538]
9361	[1-447]
9362	[1-64]
9363	[1-415]
9364	[1-413]
9365	[1-425]
9366	[39-456]
9367	[1-498]
9368	[1-373]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9369	[1-390]
9370	[1-544]
9371	[1-451]
9372	[1-272]
9373	[1-420]
9374	[1-426]
9375	[1-237]
9376	[1-438]
9377	[1-480]
9378	[1-444]
9379	[1-482]
9380	[1-250]
9381	[1-305]
9382	[1-325]
9383	[1-381]
9384	[1-362]
9385	[1-436]
9386	[1-127]
9387	[1-336]
9388	[63-88]
9389	[1-510]
9390	[1-447]
9391	[1-433]
9392	[1-104]
9393	[1-435]
9394	[207-414]
9395	[1-423]
9396	[1-485]
9397	[1-471]
9398	[1-445]
9399	[1-420]
9400	[1-411]
9401	[1-407]
9402	[1-263]
9403	[1-176]
9404	[1-317]
9405	[1-455]
9406	[1-255]
9407	[1-276]
9408	[1-454]
9409	[1-137],[285-444]
9411	[1-553]
9412	[1-451]
9413	[1-407]
9414	[1-308]
9415	[32-144],[191-408]
9416	[1-305]
9417	[1-439]
9418	[162-464]
9419	[1-430]
9420	[1-368]
9421	[1-413]
9422	[1-422]
9423	[1-396]
9424	[1-315],[356-435]
9425	[1-426]
9426	[1-490]
9427	[1-302]
9428	[1-234]
9429	[1-440]
9430	[1-560]
9431	[1-442]
9432	[1-61]
9433	[1-398]
9434	[1-119]
9435	[1-436]
9436	[87-147]
9437	[1-212]
9439	[1-263]
9440	[1-299]
9441	[1-444]
9442	[1-418]
9443	[1-448]
9444	[1-238]
9445	[1-467]
9446	[156-295]
9447	[1-405]
9448	[1-191]
9449	[1-416]
9450	[1-415]
9451	[1-427]
9452	[1-279]
9453	[1-328]
9454	[1-392]
9455	[1-235]
9456	[1-537]
9457	[58-375]
9458	[1-103]
9460	[1-71]
9461	[1-59]
9462	[1-61],[145-441]
9463	[1-328]
9464	[1-91]
9466	[1-341]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9467	[1-165]
9468	[1-104]
9469	[1-107]
9470	[1-358]
9471	[1-308]
9472	[1-104]
9473	[1-101]
9474	[1-381]
9475	[1-107]
9476	[1-104]
9477	[1-97]
9478	[1-60]
9480	[1-52]
9481	[1-323]
9482	[1-96]
9483	[1-59]
9484	[1-399]
9485	[1-103]
9486	[1-61]
9487	[1-107]
9489	[1-96]
9491	[1-88]
9492	[1-107]
9493	[1-240]
9494	[1-83]
9495	[1-88]
9496	[1-102]
9498	[1-350]
9499	[1-107]
9500	[1-58]
9501	[1-96]
9502	[1-112]
9503	[1-54]
9504	[1-105]
9505	[1-107]
9507	[1-104]
9508	[1-101]
9510	[1-316]
9511	[1-421]
9512	[1-167]
9513	[1-351]
9514	[1-352]
9515	[1-377]
9516	[1-297]
9517	[1-210],[245-361]
9518	[1-240]
9519	[1-521]

Seq Id No.	Positions of preferred fragments
9520	[99-295]
9521	[1-579]
9522	[1-83]
9523	[1-383]
9524	[83-312]
9525	[1-328]
9526	[1-160]
9527	[1-245]
9528	[1-505]
9529	[1-55]
9530	[33-81],[113-335]
9531	[1-453]
9532	[1-434]
9533	[1-429]
9534	[1-427]
9535	[1-493]
9536	[1-348]
9537	[1-680]
9538	[1-535]
9539	[1-239]
9540	[1-438]
9541	[1-498]
9542	[1-274]
9543	[1-429]
9544	[1-410]
9545	[1-371]
9546	[1-511]
9547	[1-42],[102-297]
9548	[1-73]
9549	[1-527]
9550	[1-487]
9551	[1-401]
9552	[1-355]
9553	[1-173]
9556	[264-405]
9558	[189-281]
9559	[1-488]
9560	[1-306]
9561	[1-168],[228-369]
9562	[1-274]
9563	[1-363]
9564	[1-361]
9565	[1-395]
9566	[1-444]
9567	[1-191],[279-464]
9568	[1-485]
9569	[1-332]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9570	[1-428]
9571	[1-501]
9572	[1-511]
9573	[1-76]
9574	[1-454]
9575	[1-179]
9576	[1-318]
9577	[1-264]
9578	[1-448]
9579	[1-455]
9580	[1-474]
9581	[1-468]
9582	[1-426]
9583	[1-141]
9584	[1-192]
9585	[1-359]
9586	[1-115]
9587	[1-138]
9588	[1-63]
9589	[1-72]
9590	[1-73]
9591	[1-135]
9592	[1-78]
9593	[245-420]
9594	[1-331]
9595	[73-138]
9596	[1-194]
9597	[1-456]
9598	[1-403]
9599	[35-480]
9600	[1-402]
9601	[1-423]
9602	[1-114]
9603	[1-366]
9604	[1-78]
9605	[1-423]
9606	[1-435]
9607	[1-378]
9608	[61-163]
9609	[1-397]
9610	[1-502]
9611	[1-431]
9612	[1-420]
9613	[1-459]
9614	[1-478]
9615	[1-336]
9616	[1-386]

Seq Id No.	Positions of preferred fragments
9617	[1-86]
9618	[79-117]
9619	[1-357]
9620	[1-422]
9621	[1-80]
9622	[1-511]
9623	[1-389]
9624	[1-268]
9625	[1-327]
9626	[1-86]
9627	[1-101],[144-452]
9628	[1-102]
9629	[1-233]
9630	[1-321]
9631	[1-308]
9632	[1-391]
9633	[139-274],[414-455]
9634	[1-433]
9635	[1-292]
9636	[1-274]
9637	[31-297]
9638	[1-369]
9639	[1-473]
9640	[1-292]
9642	[1-211]
9643	[1-468]
9644	[1-93]
9645	[1-501]
9646	[1-134]
9647	[1-364]
9648	[1-347]
9649	[1-157]
9650	[1-171]
9651	[1-430]
9652	[1-569]
9653	[1-306]
9654	[1-206]
9655	[1-137]
9656	[1-111]
9657	[1-244]
9658	[1-332]
9659	[1-80]
9660	[1-389]
9661	[1-76]
9662	[1-446]
9663	[1-204]
9664	[1-456]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9665	[1-469]
9666	[1-452]
9667	[1-216]
9668	[1-242],[372-474]
9669	[1-285]
9671	[1-81]
9672	[1-481]
9673	[281-488]
9674	[1-53]
9675	[52-378]
9676	[1-429]
9677	[1-434]
9678	[1-170]
9679	[1-261]
9680	[1-97]
9681	[1-372]
9682	[1-432]
9683	[1-323]
9684	[1-432]
9685	[1-90]
9686	[1-461]
9687	[1-361]
9688	[1-416]
9689	[1-67]
9690	[1-440]
9691	[1-387]
9692	[1-445]
9693	[1-51]
9694	[1-254]
9695	[1-421]
9696	[1-458]
9697	[1-391]
9698	[1-86]
9699	[1-432]
9700	[1-93],[271-440]
9701	[1-336]
9702	[1-399]
9703	[1-89]
9704	[1-323]
9705	[1-407]
9706	[1-383]
9707	[1-463]
9708	[1-405]
9710	[1-367]
9711	[31-305],[364-411]
9712	[1-71]
9713	[1-103]

Seq Id No.	Positions of preferred fragments
9714	[1-369]
9715	[1-316]
9717	[1-359]
9718	[1-57]
9719	[1-434]
9720	[1-434]
9721	[1-378]
9722	[1-368]
9723	[1-300]
9724	[1-227]
9725	[1-297]
9726	[117-183]
9727	[1-167]
9728	[1-67]
9729	[1-356]
9730	[1-58]
9731	[1-621]
9732	[1-207]
9733	[1-87]
9734	[1-63]
9735	[1-135]
9736	[1-93]
9738	[1-429]
9739	[1-146]
9740	[1-61]
9741	[1-57]
9742	[76-108]
9743	[1-146]
9744	[1-337]
9745	[1-78]
9746	[1-60]
9747	[1-415]
9748	[1-76],[269-410]
9749	[1-406]
9750	[1-109]
9751	[1-371]
9752	[1-103]
9753	[1-83]
9754	[1-224]
9755	[1-462]
9756	[1-86]
9757	[1-398]
9758	[96-272],[370-477]
9759	[1-487]
9760	[1-130]
9761	[1-432]
9762	[1-483]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9763	[1-323]
9764	[1-337]
9765	[1-126]
9766	[1-284]
9767	[1-76]
9768	[1-135]
9769	[233-466]
9770	[1-440]
9771	[1-407]
9772	[1-443]
9773	[1-89]
9774	[1-151]
9775	[1-424]
9776	[1-248]
9777	[1-322]
9778	[1-68]
9779	[1-399]
9780	[233-481]
9782	[1-431]
9783	[1-353]
9784	[1-346]
9785	[1-435]
9786	[1-380]
9787	[1-362]
9788	[1-500]
9789	[1-250],[302-429]
9790	[1-375]
9791	[1-257],[354-425]
9792	[1-299]
9793	[1-356]
9794	[1-456]
9795	[1-385]
9796	[1-374]
9797	[1-393]
9798	[1-375]
9799	[1-425]
9801	[1-462]
9802	[1-91]
9803	[1-236]
9804	[1-254]
9805	[1-351]
9806	[1-425]
9807	[1-68]
9808	[1-394]
9809	[1-463]
9810	[1-368]
9811	[1-62]

Seq Id No.	Positions of preferred fragments
9812	[1-502]
9813	[1-500]
9814	[1-500]
9815	[1-416]
9816	[52-370]
9817	[1-471]
9818	[53-400]
9819	[1-472]
9820	[1-482]
9821	[1-441]
9822	[1-444]
9823	[1-237]
9824	[1-79]
9825	[1-452]
9826	[1-155]
9827	[1-438]
9828	[1-463]
9829	[1-487]
9830	[1-479]
9831	[1-79]
9832	[1-426]
9833	[1-369]
9834	[1-500]
9835	[1-343]
9836	[1-62],[162-497]
9837	[1-72]
9838	[1-507]
9839	[1-574]
9840	[1-303]
9841	[1-78]
9842	[1-415]
9843	[1-52],[100-214]
9844	[1-529]
9845	[1-71]
9846	[1-424]
9847	[1-455]
9848	[1-339]
9849	[1-449]
9850	[1-117]
9851	[1-173]
9852	[1-444]
9853	[1-387]
9854	[1-396]
9855	[1-92]
9856	[1-439]
9857	[1-440]
9858	[1-429]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9859	[1-488]
9860	[1-438]
9862	[1-472]
9863	[1-345]
9864	[1-110]
9865	[1-157]
9866	[1-461]
9867	[32-475]
9868	[1-144]
9869	[242-502]
9870	[1-356]
9871	[1-165]
9872	[1-424]
9873	[1-175]
9875	[1-452]
9876	[1-137]
9877	[1-426]
9878	[1-439]
9879	[1-504]
9880	[1-194]
9881	[1-483]
9882	[1-335],[411-438]
9883	[323-581]
9884	[1-345]
9885	[1-280]
9886	[1-359]
9887	[1-444]
9889	[1-461]
9890	[1-79]
9891	[1-137],[306-439]
9892	[1-68]
9893	[1-482]
9894	[1-145]
9895	[1-379]
9896	[1-449]
9897	[1-478]
9898	[1-414]
9899	[1-177]
9900	[1-245]
9901	[1-425]
9902	[1-155]
9903	[1-308]
9904	[1-79]
9905	[1-296]
9906	[1-429]
9907	[1-174]
9908	[1-180]

Seq Id No.	Positions of preferred fragments
9909	[1-265]
9910	[1-424]
9911	[1-73]
9912	[1-441]
9913	[1-414]
9914	[1-442]
9915	[112-167]
9916	[1-138]
9917	[1-412]
9918	[1-891]
9919	[1-200]
9920	[1-134]
9921	[1-164]
9922	[1-468]
9923	[1-414]
9924	[1-169]
9925	[1-69]
9926	[1-441]
9927	[1-96]
9928	[1-457]
9929	[1-54]
9930	[1-379]
9931	[1-419]
9932	[1-422]
9933	[1-198]
9934	[1-207]
9935	[1-413]
9936	[1-440]
9937	[168-391]
9938	[127-308]
9939	[1-328]
9940	[1-400]
9941	[1-161]
9942	[1-169]
9944	[148-172]
9945	[1-138]
9947	[1-64]
9948	[1-219]
9949	[1-190]
9950	[1-188]
9951	[1-140]
9952	[1-188]
9953	[1-176]
9954	[1-176]
9955	[1-479]
9956	[1-400]
9957	[1-380]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
9958	[1-112]
9959	[1-423]
9960	[1-128]
9961	[1-364]
9963	[1-185]
9964	[1-469]
9966	[1-72]
9967	[1-104]
9968	[1-176]
9970	[1-434]
9971	[1-439]
9972	[1-114]
9973	[1-349]
9974	[1-505]
9975	[1-86]
9976	[1-487]
9977	[1-338]
9978	[1-387]
9979	[1-438]
9980	[1-423]
9981	[1-283]
9982	[1-55]
9983	[1-388]
9984	[1-71]
9985	[1-485]
9986	[1-162]
9987	[1-455]
9988	[116-488]
9989	[1-383]
9990	[1-491]
9991	[1-500]
9992	[1-448]
9993	[1-355]
9994	[1-77]
9995	[1-481]
9996	[1-367]
9997	[1-86]
9998	[1-327]
9999	[164-348]
10000	[1-479]
10001	[1-391]
10002	[1-325]
10003	[1-367]
10004	[1-437]
10005	[1-364]
10006	[1-476]
10007	[1-486]
10008	[1-415]
10009	[1-289]
10010	[1-440]
10011	[1-326]
10012	[1-361]
10013	[1-514]
10014	[1-476]
10015	[1-289]
10016	[1-411]
10017	[1-246]
10018	[1-432]
10019	[1-502]
10020	[1-326]
10021	[1-106]
10022	[1-445]
10023	[1-212]
10024	[1-119]
10025	[1-337]
10026	[1-146]
10027	[1-468]
10028	[1-396]
10029	[1-436]
10030	[1-452]
10031	[1-471]
10032	[1-527]
10033	[1-463]
10034	[1-461]
10035	[1-439]
10036	[1-86]
10037	[1-478]
10038	[1-36]
10039	[1-393]
10040	[1-435]
10041	[1-433]
10042	[1-43],[305-366],[446-483]
10043	[1-437]
10044	[1-461]
10045	[1-135]
10046	[1-72]
10047	[1-78]
10048	[1-230]
10049	[1-162]
10050	[214-391]
10051	[1-120]
10052	[1-329]
10053	[1-438]
10054	[1-120]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10055	[1-227]
10056	[1-94]
10057	[1-430]
10058	[1-473]
10059	[1-161]
10060	[1-344]
10061	[1-496]
10062	[1-382]
10063	[1-272]
10064	[1-530]
10065	[1-44],[129-473]
10066	[1-398]
10067	[1-170]
10068	[1-404]
10069	[1-103]
10070	[1-120]
10071	[1-261]
10072	[1-322]
10073	[1-509]
10074	[1-399]
10075	[1-484]
10076	[1-292]
10077	[1-316]
10078	[1-390]
10079	[1-498]
10080	[1-223]
10081	[50-472]
10082	[1-284]
10083	[1-410]
10084	[1-407]
10085	[47-345]
10086	[1-136]
10087	[1-461]
10088	[1-519]
10089	[1-187]
10090	[1-465]
10091	[1-67]
10092	[1-476]
10093	[1-445]
10094	[1-227]
10095	[1-398]
10096	[1-67],[164-367]
10097	[1-46],[129-502]
10098	[1-445]
10099	[1-339]
10100	[1-456]
10101	[1-208]
10102	[1-126]
10103	[1-146]
10105	[1-466]
10106	[1-441]
10107	[1-324]
10108	[1-41]
10109	[1-379]
10110	[1-375]
10111	[1-417]
10112	[1-81]
10113	[1-467]
10115	[1-432]
10116	[1-289]
10117	[1-423]
10118	[1-89]
10120	[1-341]
10121	[1-201]
10122	[1-436]
10123	[1-405]
10124	[1-343]
10125	[1-473]
10126	[1-451]
10127	[1-342]
10128	[1-228]
10129	[1-414]
10130	[1-107]
10131	[1-89]
10132	[1-223]
10133	[1-78]
10134	[1-125]
10135	[1-128],[215-440]
10136	[1-107],[189-348]
10137	[1-257]
10138	[1-429]
10139	[1-337]
10140	[1-476]
10141	[1-308]
10142	[1-61]
10143	[1-173]
10144	[1-176]
10145	[1-72]
10146	[1-368]
10147	[52-357]
10148	[1-145]
10149	[1-444]
10150	[1-434]
10151	[1-142]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
10152	[1-443]	10203	[1-257]
10153	[1-496]	10204	[1-215]
10154	[1-119]	10205	[1-379]
10155	[1-330]	10206	[1-92],[308-419]
10156	[1-50]	10207	[1-487]
10157	[1-347]	10208	[1-51]
10158	[1-343]	10209	[1-367]
10159	[1-252]	10210	[1-88]
10161	[1-67]	10211	[1-299]
10162	[1-323]	10212	[1-435]
10163	[1-345]	10213	[1-77]
10164	[79-244]	10214	[1-322]
10165	[1-484]	10215	[1-288]
10166	[1-375]	10216	[1-391]
10167	[1-476]	10217	[1-490]
10169	[1-355]	10218	[1-448]
10170	[1-472]	10219	[1-455]
10171	[1-467]	10220	[1-279]
10172	[1-327]	10221	[1-477]
10173	[1-326]	10222	[1-386]
10174	[52-369]	10223	[1-395]
10175	[88-488]	10224	[1-359]
10177	[1-433]	10225	[37-107]
10178	[1-246]	10226	[55-209]
10179	[49-108]	10227	[1-271]
10180	[1-492]	10228	[1-570]
10181	[1-77]	10229	[1-252]
10182	[1-188]	10230	[1-488]
10183	[1-40]	10231	[1-328]
10184	[1-191]	10232	[32-485]
10185	[1-255]	10233	[1-429]
10186	[1-326]	10234	[1-361]
10187	[1-503]	10235	[1-306]
10188	[1-161]	10236	[1-407]
10190	[1-314]	10237	[1-250]
10191	[1-486]	10238	[1-252]
10192	[1-337]	10239	[1-432]
10193	[1-271]	10240	[1-207]
10194	[89-418]	10241	[1-315]
10195	[1-130]	10242	[1-312]
10196	[1-77]	10243	[1-378]
10197	[1-76]	10244	[1-341]
10198	[1-398]	10245	[1-247]
10199	[1-452]	10246	[1-331]
10200	[1-476]	10247	[1-318]
10201	[1-78]	10248	[1-248]
10202	[289-365]	10249	[1-460]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10250	[1-136]
10251	[151-206]
10252	[1-400]
10253	[170-414]
10254	[1-147]
10255	[1-55]
10256	[1-397]
10257	[1-425]
10258	[1-319]
10259	[1-423]
10260	[1-381]
10261	[1-433]
10262	[1-336]
10263	[1-110]
10264	[1-170]
10265	[1-493]
10266	[1-498]
10267	[1-532]
10268	[1-563]
10269	[1-266]
10270	[95-466]
10271	[1-28],[101-157]
10272	[1-452]
10273	[1-352]
10274	[1-429]
10276	[1-441]
10277	[1-237]
10278	[1-252]
10279	[1-437]
10280	[1-340]
10281	[1-343]
10282	[1-402]
10283	[1-377]
10284	[1-386]
10285	[1-440]
10286	[1-247]
10287	[1-422]
10288	[1-135]
10289	[1-430]
10290	[1-427]
10291	[1-422]
10292	[1-75]
10293	[1-477]
10294	[1-469]
10295	[1-488],[540-1211]
10296	[1-481]
10297	[1-259]
10299	[1-344],[444-519]
10300	[1-310]
10301	[1-323]
10302	[90-290]
10303	[1-359]
10304	[1-303]
10305	[1-462]
10306	[1-249]
10307	[1-344]
10308	[1-468]
10309	[1-486]
10310	[1-391]
10311	[1-72]
10312	[1-70]
10313	[1-426]
10314	[1-444]
10315	[1-348]
10317	[1-440]
10318	[1-433]
10319	[1-283]
10320	[1-505]
10321	[1-157]
10322	[1-436]
10323	[1-445]
10324	[1-450]
10325	[1-445]
10326	[165-342]
10327	[1-362]
10328	[1-304]
10329	[37-308]
10330	[218-278]
10331	[1-259]
10332	[1-656]
10333	[1-445]
10334	[1-589]
10335	[61-160]
10336	[331-498]
10337	[1-517]
10338	[1-493]
10339	[1-525]
10340	[1-293]
10341	[276-447]
10342	[1-399]
10343	[1-523]
10344	[1-332]
10345	[1-370]
10346	[1-330]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10347	[1-75]
10348	[1-557]
10349	[1-428]
10350	[1-445]
10351	[1-397]
10352	[1-451]
10353	[1-417]
10354	[1-485]
10355	[1-458]
10356	[1-293]
10357	[1-220]
10358	[1-73]
10359	[1-431]
10360	[1-447]
10361	[1-360]
10362	[1-460]
10363	[1-401]
10364	[1-188]
10365	[1-496]
10366	[32-496]
10367	[1-449]
10368	[1-337]
10369	[1-448]
10370	[1-116]
10371	[1-453]
10372	[1-450]
10373	[1-427]
10374	[1-323]
10375	[1-426]
10376	[1-489]
10377	[1-257]
10378	[1-444]
10379	[1-574]
10380	[1-271]
10381	[1-539]
10382	[1-232]
10383	[1-147]
10384	[1-417]
10385	[1-478]
10386	[1-376],[433-583]
10387	[1-450]
10388	[1-418]
10389	[1-593]
10390	[1-113]
10391	[1-354]
10392	[1-395]
10393	[1-586]
10394	[1-483]
10395	[60-541]
10396	[32-510]
10397	[1-535]
10398	[1-606]
10399	[1-486]
10400	[1-416]
10401	[162-503]
10402	[1-481]
10403	[1-485]
10404	[1-293]
10405	[1-423]
10406	[1-46],[109-427]
10407	[30-86],[250-478]
10408	[1-536]
10409	[1-473]
10410	[1-481]
10411	[1-468]
10412	[1-445]
10413	[1-505]
10414	[1-510]
10415	[50-461]
10416	[1-358]
10417	[46-547]
10418	[1-487]
10419	[1-73]
10420	[1-77]
10421	[228-425]
10422	[1-535]
10423	[1-357]
10424	[1-72]
10425	[1-441]
10426	[1-184],[301-388]
10427	[1-198]
10428	[1-517]
10429	[1-80]
10430	[1-483]
10431	[1-317]
10432	[1-587]
10433	[1-435]
10435	[1-333]
10436	[1-469]
10437	[1-306]
10438	[1-500]
10439	[1-140],[200-486]
10440	[1-360]
10441	[1-452]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10442	[1-75]
10443	[1-466]
10444	[1-463]
10445	[1-474]
10446	[1-431]
10448	[1-505]
10449	[1-559]
10450	[187-226]
10451	[1-515]
10452	[1-533]
10454	[1-474]
10455	[1-500]
10456	[1-418]
10457	[1-362]
10458	[1-477]
10459	[1-465]
10460	[1-519]
10461	[1-69]
10462	[1-573]
10463	[1-537]
10464	[1-378]
10465	[1-105]
10466	[1-63]
10467	[1-145]
10468	[1-282]
10469	[1-349]
10470	[1-89]
10471	[1-64]
10472	[1-558]
10473	[1-474]
10474	[1-547]
10475	[1-529]
10476	[1-515]
10477	[1-454]
10478	[1-145]
10479	[1-419]
10480	[1-503]
10481	[1-450]
10482	[1-398]
10483	[1-369]
10484	[1-343]
10485	[395-474]
10486	[56-369]
10487	[1-439]
10488	[63-435]
10489	[1-494]
10490	[1-343]

Seq Id No.	Positions of preferred fragments
10491	[1-625]
10492	[1-555]
10493	[1-600]
10494	[1-312]
10495	[1-469]
10496	[52-373]
10497	[1-406]
10498	[1-390]
10499	[1-63],[169-340]
10500	[1-142]
10501	[1-467]
10502	[1-487]
10503	[1-454]
10504	[1-399]
10505	[1-433]
10506	[1-402]
10507	[1-395]
10508	[1-155]
10509	[1-338]
10510	[1-346]
10511	[1-577]
10512	[1-386]
10513	[1-151]
10514	[1-142]
10515	[1-164]
10516	[1-524]
10517	[1-400]
10518	[1-387]
10519	[1-408]
10520	[1-433]
10521	[1-369]
10522	[1-441]
10523	[1-534]
10524	[1-274]
10525	[1-473]
10526	[112-140]
10527	[1-514]
10528	[1-209]
10529	[1-55]
10530	[1-26],[70-232],[265-401]
10531	[1-300]
10532	[1-416]
10533	[1-481]
10534	[50-474]
10535	[1-188]
10536	[50-474]
10537	[1-428]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10538	[1-581]
10539	[1-442]
10540	[1-294]
10542	[1-493]
10543	[1-193]
10544	[1-396]
10545	[1-506]
10546	[1-504]
10547	[1-154]
10548	[1-501]
10549	[1-127]
10550	[1-439]
10551	[1-409]
10552	[1-72]
10553	[32-494]
10554	[1-409]
10555	[1-306]
10556	[1-491]
10557	[1-437]
10558	[1-337]
10559	[1-233],[267-403]
10560	[1-319]
10561	[1-142]
10562	[229-385]
10563	[1-249]
10564	[1-349]
10565	[1-443]
10566	[1-419]
10567	[1-328]
10568	[1-106]
10569	[1-575]
10570	[1-523]
10571	[1-559]
10572	[1-354]
10573	[106-296]
10574	[1-271]
10575	[1-90]
10576	[1-353]
10577	[1-314]
10578	[1-119]
10579	[1-351]
10580	[1-80]
10581	[1-361]
10582	[1-47],[83-120]
10583	[1-535]
10584	[1-57]
10585	[1-511]
10586	[1-116]
10587	[1-312]
10588	[1-591]
10589	[1-129],[160-503]
10590	[1-572]
10591	[65-491]
10592	[1-127]
10593	[1-370]
10594	[1-607]
10595	[1-447]
10596	[1-532]
10597	[1-445]
10598	[1-50]
10599	[1-453]
10600	[1-425]
10601	[1-443]
10602	[1-482]
10603	[1-494]
10604	[1-480]
10605	[1-407]
10606	[50-472]
10607	[89-303]
10608	[1-250]
10609	[1-87]
10611	[1-391]
10612	[1-187],[337-447]
10613	[1-338]
10614	[1-437]
10615	[1-480]
10616	[1-503]
10617	[1-556]
10618	[1-563]
10619	[1-454]
10621	[1-470]
10622	[1-438]
10623	[46-451]
10624	[1-529]
10625	[1-512]
10626	[1-562]
10627	[1-106],[137-337]
10628	[1-501]
10629	[1-365],[454-489]
10630	[1-281]
10631	[1-400]
10632	[1-511]
10633	[1-374]
10634	[1-487]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10635	[1-514]
10636	[1-551]
10637	[50-466]
10638	[1-451]
10639	[1-552]
10640	[1-456]
10641	[1-169]
10642	[1-155]
10643	[1-440]
10644	[1-129]
10645	[1-541]
10646	[1-557]
10647	[1-557]
10648	[1-484]
10649	[1-553]
10650	[1-538]
10651	[1-497]
10652	[1-445]
10653	[1-309]
10654	[1-426]
10655	[1-527]
10656	[1-149]
10657	[1-525]
10658	[1-470]
10659	[1-520]
10660	[1-403]
10661	[1-428]
10662	[1-503]
10663	[1-468],[529-562]
10664	[1-583]
10665	[1-265]
10666	[1-480]
10667	[89-433]
10668	[1-260]
10669	[1-493]
10670	[1-345]
10671	[1-196]
10672	[1-447]
10673	[1-429]
10674	[1-531]
10675	[1-233]
10676	[1-410]
10677	[1-497]
10678	[1-402]
10679	[1-351]
10680	[1-298]
10681	[1-413]

Seq Id No.	Positions of preferred fragments
10682	[1-410]
10683	[1-487]
10684	[1-546]
10685	[1-501]
10686	[1-293]
10687	[1-477]
10688	[1-447]
10689	[1-84]
10690	[1-67]
10691	[1-429]
10692	[1-356]
10693	[1-361]
10694	[1-162],[216-271]
10695	[1-270]
10696	[1-521]
10697	[1-344]
10698	[1-379]
10699	[1-419]
10700	[1-208],[293-470]
10701	[1-288]
10702	[1-299]
10703	[1-470]
10704	[1-85]
10705	[1-540]
10706	[1-420]
10707	[1-233],[264-304]
10708	[1-499]
10709	[1-418]
10710	[1-194]
10711	[1-474]
10712	[1-486]
10713	[1-58]
10714	[1-468]
10715	[1-59]
10716	[1-433]
10717	[1-396]
10718	[1-443]
10719	[1-65]
10720	[1-421]
10721	[1-500]
10722	[1-149]
10723	[1-109]
10724	[1-383]
10725	[1-414]
10726	[1-485]
10727	[1-270]
10728	[1-492]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10729	[1-496]
10730	[1-483]
10731	[1-269]
10732	[1-168]
10733	[1-266]
10734	[1-472]
10735	[1-88]
10736	[1-264]
10737	[1-206]
10738	[1-454]
10739	[1-485]
10740	[1-291]
10741	[1-415]
10742	[1-514]
10744	[1-481]
10745	[1-468]
10746	[1-478]
10747	[1-468]
10748	[1-277]
10749	[1-475]
10750	[1-150]
10751	[1-375]
10752	[1-305]
10753	[1-360]
10754	[1-455]
10755	[1-258]
10756	[52-376]
10757	[1-271]
10759	[1-455]
10761	[1-364]
10762	[1-81],[211-476]
10763	[1-70],[135-440]
10764	[1-71]
10765	[1-481]
10766	[1-162]
10767	[1-506]
10768	[1-421]
10769	[1-329]
10770	[1-354]
10771	[1-127]
10772	[46-263]
10773	[1-320]
10774	[1-203]
10775	[1-347]
10776	[1-375]
10777	[1-372]
10778	[1-379]

Seq Id No.	Positions of preferred fragments
10779	[1-268]
10780	[1-479]
10781	[1-462]
10782	[1-431]
10783	[1-232]
10784	[1-63]
10785	[1-154]
10786	[1-434]
10787	[1-152]
10788	[1-343]
10789	[1-247]
10790	[1-441]
10791	[1-223]
10792	[1-441]
10793	[1-304]
10794	[1-172]
10795	[1-254]
10796	[1-374]
10797	[1-80]
10798	[91-417]
10799	[1-268]
10800	[1-447]
10801	[61-142]
10802	[1-245]
10803	[1-168]
10804	[1-361]
10805	[1-170]
10806	[1-376]
10807	[1-343]
10808	[1-221]
10809	[86-264]
10811	[1-188]
10812	[1-447]
10813	[1-52]
10814	[1-237]
10815	[1-232]
10816	[1-263]
10817	[1-401]
10818	[1-463]
10819	[1-436]
10820	[1-222]
10821	[1-355]
10822	[1-88]
10823	[1-398]
10824	[1-504]
10825	[1-45],[269-364]
10826	[1-58]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10827	[1-440]
10828	[1-331]
10829	[1-80]
10830	[1-234]
10831	[1-429]
10832	[1-69]
10833	[54-189]
10834	[130-440]
10835	[1-418]
10836	[1-348]
10837	[1-51]
10838	[1-130]
10839	[1-348]
10840	[1-233]
10841	[1-446]
10842	[1-101]
10843	[1-282]
10844	[1-199]
10845	[1-471]
10846	[1-134]
10847	[1-166]
10848	[1-326]
10849	[1-246]
10850	[1-390]
10851	[1-243]
10852	[1-483]
10853	[1-435]
10854	[1-93]
10855	[1-217]
10856	[1-487]
10857	[1-349]
10858	[1-470]
10859	[1-433]
10860	[1-450]
10861	[1-333]
10862	[1-76],[110-350]
10863	[1-184]
10864	[1-450]
10865	[1-438]
10866	[1-256]
10867	[1-197]
10868	[1-372]
10869	[1-358]
10870	[1-389]
10871	[1-53]
10872	[1-296]
10873	[1-378]

Seq Id No.	Positions of preferred fragments
10874	[1-294]
10875	[1-157]
10876	[1-484]
10877	[1-475]
10878	[1-438]
10879	[1-288]
10880	[1-58]
10881	[1-300]
10882	[1-238]
10883	[1-340]
10884	[1-358]
10885	[1-171]
10886	[1-429]
10887	[1-476]
10888	[1-301]
10889	[1-407]
10890	[1-497]
10891	[1-53]
10892	[1-360]
10893	[1-436]
10895	[1-358]
10896	[1-67]
10897	[218-278]
10898	[1-156]
10899	[1-85],[131-215]
10900	[1-159]
10901	[1-375]
10902	[1-479]
10903	[1-476]
10904	[1-373]
10905	[1-369]
10906	[1-103]
10907	[1-68]
10908	[1-349]
10909	[1-138]
10911	[1-184]
10912	[1-197]
10913	[1-227]
10914	[1-229]
10915	[1-251]
10916	[1-59]
10917	[1-477]
10918	[1-469]
10919	[1-353]
10920	[1-112]
10921	[1-247]
10922	[1-80]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
10923	[72-218]
10924	[1-226]
10925	[1-243]
10926	[1-463]
10927	[1-512]
10928	[1-463]
10929	[1-131]
10930	[1-312]
10931	[1-242]
10932	[1-79]
10933	[1-386]
10934	[1-464]
10935	[1-412]
10936	[1-531]
10937	[1-304]
10938	[1-372]
10939	[1-458]
10940	[1-136]
10941	[1-185]
10942	[1-220]
10943	[1-366]
10944	[1-359]
10946	[80-200]
10947	[1-344]
10948	[1-391]
10949	[1-87]
10950	[1-369]
10951	[1-364]
10952	[1-364]
10953	[1-239]
10954	[1-481]
10955	[1-209]
10956	[1-67]
10957	[1-428]
10958	[1-453]
10959	[1-346]
10960	[1-506]
10961	[1-146]
10962	[1-150]
10963	[1-597]
10964	[1-507]
10965	[1-438]
10966	[1-356]
10967	[1-591]
10968	[1-485]
10969	[1-418]
10970	[1-397]
10971	[1-72]
10973	[1-366]
10974	[1-497]
10975	[1-430]
10976	[1-520]
10977	[1-374]
10978	[1-149],[230-292],[361-478]
10979	[31-461]
10980	[1-55]
10981	[1-456]
10982	[1-459]
10983	[1-209]
10984	[1-250]
10985	[1-424]
10986	[1-438]
10987	[1-443]
10988	[1-341]
10989	[1-274]
10990	[1-328]
10991	[1-442]
10992	[1-410]
10993	[1-322]
10994	[1-309]
10995	[1-412]
10996	[50-471]
10997	[1-246]
10998	[1-487]
10999	[1-167]
11000	[1-233],[264-292]
11001	[1-73]
11002	[1-293]
11003	[137-212],[270-395]
11004	[1-544]
11005	[1-223]
11006	[1-552]
11007	[1-53]
11008	[1-491]
11009	[1-155]
11010	[1-452]
11011	[1-469]
11012	[1-498]
11013	[1-376]
11014	[1-460]
11015	[71-318],[353-468]
11016	[1-419]
11017	[1-403]
11018	[1-365]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11019	[1-458]
11021	[1-499]
11022	[1-80]
11023	[1-452]
11024	[1-418]
11025	[1-497]
11026	[1-470]
11027	[1-482]
11028	[1-498]
11029	[1-479]
11030	[52-357]
11031	[1-470]
11032	[1-416]
11033	[1-414]
11034	[1-484]
11035	[1-489]
11036	[1-501]
11037	[1-76]
11038	[1-128],[159-469]
11039	[1-487]
11040	[1-475]
11041	[1-482]
11042	[1-391]
11043	[1-424]
11044	[1-481]
11045	[1-306]
11046	[1-443]
11047	[1-491]
11048	[1-252]
11049	[1-414]
11050	[53-416]
11051	[1-89]
11052	[1-436]
11053	[1-466]
11054	[1-483]
11055	[1-442]
11056	[1-347]
11057	[1-492]
11058	[1-432]
11059	[1-306]
11060	[1-478]
11061	[53-436]
11062	[1-500]
11063	[1-85]
11064	[64-337]
11065	[1-468]
11066	[1-484]
11067	[1-531]
11068	[1-483]
11069	[1-312]
11070	[1-488]
11071	[1-253]
11072	[53-398]
11073	[1-499]
11074	[1-401]
11075	[1-444]
11076	[1-448]
11077	[1-332],[446-482]
11078	[228-273]
11079	[1-331]
11080	[50-391]
11081	[1-488]
11082	[1-258]
11083	[1-468]
11084	[1-339]
11085	[1-488]
11086	[1-478]
11087	[61-135]
11088	[1-438]
11090	[1-61]
11091	[1-62]
11092	[1-336]
11093	[1-454]
11094	[49-125]
11095	[1-67]
11096	[1-489]
11097	[1-387]
11098	[1-132]
11099	[53-395]
11100	[1-485]
11101	[1-422]
11102	[1-517]
11103	[1-304]
11104	[1-457]
11105	[1-476]
11106	[49-108]
11107	[1-446]
11108	[1-397]
11109	[1-379]
11110	[1-488]
11111	[1-414]
11112	[1-399]
11113	[1-432]
11114	[1-471]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11115	[1-452]
11116	[50-474]
11117	[1-376]
11118	[1-434]
11119	[1-457]
11120	[1-421]
11121	[53-399]
11122	[1-168]
11123	[1-469]
11124	[1-338]
11125	[1-446]
11126	[1-398]
11127	[1-478]
11128	[1-481]
11129	[1-397]
11130	[1-474]
11131	[1-460]
11132	[1-214]
11133	[1-509]
11134	[37-312]
11135	[1-469]
11136	[1-495]
11137	[1-53]
11138	[1-468]
11139	[1-415]
11140	[1-102]
11141	[53-121]
11142	[1-437]
11143	[1-439]
11144	[1-540]
11145	[403-449]
11146	[1-481]
11147	[1-273]
11148	[1-240]
11149	[1-362]
11150	[1-491]
11151	[1-438]
11152	[1-98]
11153	[1-503]
11154	[1-479]
11155	[1-493]
11156	[1-476]
11157	[52-370]
11158	[1-566]
11159	[1-293]
11160	[1-505]
11161	[1-176]
11162	[1-394]
11163	[1-126]
11164	[1-460]
11165	[1-478]
11166	[1-80]
11167	[1-311]
11168	[1-488]
11169	[1-507]
11170	[1-495]
11171	[1-309]
11172	[1-529]
11173	[1-482]
11174	[1-127]
11175	[1-209],[292-391]
11176	[1-282]
11177	[1-437]
11178	[1-122]
11179	[1-522]
11180	[1-137]
11181	[1-386]
11182	[1-473]
11183	[1-278]
11184	[1-478]
11185	[1-518]
11187	[1-502]
11188	[1-408]
11189	[1-488]
11190	[1-413]
11191	[1-428]
11192	[1-80]
11193	[1-130]
11194	[1-83]
11195	[1-139]
11196	[1-470]
11197	[1-391]
11198	[1-104]
11199	[1-55]
11200	[1-175],[451-499]
11202	[1-492]
11203	[1-494]
11204	[1-68]
11205	[1-515]
11206	[1-108]
11208	[1-381]
11209	[1-58],[89-205]
11210	[1-96]
11211	[1-257]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11213	[1-201]
11214	[1-381]
11216	[1-251]
11217	[1-207]
11218	[1-132]
11219	[1-245]
11220	[1-235]
11221	[1-321]
11222	[1-281]
11223	[109-306]
11224	[1-169]
11225	[1-260]
11226	[1-270]
11227	[208-481]
11228	[1-318]
11229	[1-425]
11230	[1-356]
11231	[74-248]
11232	[1-51],[96-407]
11234	[1-201]
11236	[1-405]
11238	[1-362]
11239	[1-343]
11240	[1-151]
11241	[1-358]
11242	[1-310]
11243	[1-370]
11244	[1-103]
11245	[1-186]
11246	[1-444]
11247	[1-374]
11248	[1-418]
11249	[1-169]
11250	[1-467]
11251	[1-288]
11252	[1-250]
11253	[1-219]
11254	[1-74]
11255	[1-219]
11257	[1-72]
11258	[1-447]
11259	[1-219]
11260	[1-219]
11261	[1-219]
11262	[1-282]
11263	[1-219]
11264	[1-219]

Seq Id No.	Positions of preferred fragments
11265	[1-73]
11266	[1-224]
11267	[1-399]
11268	[1-168]
11269	[1-219]
11270	[1-219]
11271	[1-228]
11272	[1-219]
11273	[1-219]
11274	[1-219]
11275	[1-189]
11276	[1-219]
11277	[1-219]
11278	[1-118]
11279	[1-469]
11280	[1-207]
11281	[1-219]
11282	[1-136]
11283	[1-206]
11284	[1-219]
11285	[1-206]
11286	[1-219]
11287	[1-111]
11288	[1-219]
11289	[1-219]
11290	[1-74]
11291	[1-136]
11292	[1-219]
11293	[1-219]
11294	[1-206]
11295	[1-136]
11296	[1-219]
11297	[1-219]
11298	[1-399]
11299	[1-206]
11300	[1-193]
11301	[1-129]
11302	[1-128]
11303	[1-72]
11304	[1-219]
11305	[1-144]
11306	[1-101]
11307	[1-136]
11308	[1-219]
11309	[1-136]
11310	[1-489]
11311	[1-219]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11312	[1-61]
11313	[1-419]
11314	[1-207]
11315	[1-207]
11316	[1-111]
11317	[1-206]
11318	[1-144]
11319	[1-110]
11320	[1-219]
11321	[1-450]
11322	[1-219]
11323	[1-60]
11324	[1-219]
11325	[1-72]
11326	[1-171]
11327	[1-225]
11328	[1-221]
11329	[1-219]
11330	[1-237]
11331	[1-153]
11332	[1-219]
11333	[1-219]
11334	[1-207]
11335	[1-121]
11336	[1-187]
11337	[1-220]
11338	[1-219]
11339	[1-219]
11340	[1-185]
11342	[1-198]
11343	[1-498]
11344	[214-388]
11345	[1-426]
11346	[1-430]
11347	[1-440]
11348	[1-382]
11349	[1-483]
11350	[1-410]
11351	[1-427]
11352	[1-342]
11353	[1-330]
11354	[1-149],[188-409]
11355	[1-471]
11356	[1-307]
11357	[1-107]
11358	[1-330]
11359	[54-192]
11360	[365-464]
11362	[1-370],[418-523]
11363	[1-415]
11364	[328-447]
11365	[1-281]
11366	[1-505]
11367	[1-306]
11368	[1-440]
11369	[1-498]
11370	[1-439]
11371	[1-341]
11372	[124-278]
11373	[1-325]
11374	[1-644]
11375	[1-610]
11376	[1-489]
11377	[1-482]
11378	[1-295]
11380	[34-334]
11381	[1-437]
11382	[1-105]
11383	[1-401]
11384	[1-326]
11385	[1-233]
11386	[1-292]
11387	[1-493]
11388	[1-525]
11389	[1-543]
11390	[1-146]
11391	[1-302]
11392	[1-521]
11393	[1-353]
11394	[50-126],[194-236]
11395	[1-212]
11396	[1-285]
11397	[1-148]
11398	[1-147]
11399	[1-375]
11400	[1-234]
11401	[1-77]
11402	[1-394]
11403	[1-406]
11404	[1-350]
11405	[1-64]
11406	[1-193]
11407	[1-294]
11408	[1-460]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11409	[1-401]
11410	[1-428]
11411	[1-203]
11412	[1-326]
11413	[1-99]
11414	[1-57]
11415	[1-428]
11416	[1-307]
11417	[1-466]
11418	[1-316]
11419	[1-306]
11420	[1-136]
11421	[1-249]
11422	[1-224],[308-608]
11423	[1-430]
11424	[1-480]
11425	[1-457]
11426	[1-309]
11427	[1-309]
11428	[1-198]
11429	[1-198]
11430	[1-230]
11431	[1-180]
11432	[1-393]
11433	[1-378]
11434	[1-291]
11435	[1-472]
11436	[1-102]
11437	[1-436]
11438	[1-261]
11439	[1-504]
11440	[1-506]
11441	[1-452]
11442	[40-255]
11443	[1-244]
11444	[1-396]
11445	[1-261]
11446	[1-137]
11447	[1-367]
11448	[1-346]
11449	[1-486]
11450	[1-318]
11451	[1-352]
11452	[1-241]
11453	[1-400]
11454	[1-495]
11455	[1-117]
11456	[1-286]
11457	[1-374]
11458	[1-366]
11459	[1-365]
11460	[1-388]
11461	[1-120]
11462	[1-373]
11463	[1-384]
11464	[1-339]
11465	[1-349]
11466	[1-95]
11467	[1-386]
11468	[1-398]
11469	[1-453]
11470	[1-172]
11471	[1-446]
11472	[1-425]
11473	[1-311]
11474	[1-441]
11475	[1-367]
11476	[1-348]
11477	[1-178]
11478	[1-149]
11479	[1-418]
11480	[1-415]
11481	[116-323]
11482	[1-442]
11483	[1-385]
11484	[1-476]
11485	[1-426]
11486	[1-118]
11487	[1-351]
11488	[1-443]
11489	[1-140]
11490	[1-370]
11491	[1-406]
11492	[1-422]
11493	[1-132]
11494	[1-106]
11495	[1-392]
11496	[152-366]
11497	[1-79]
11498	[1-553]
11499	[1-504]
11500	[1-577]
11501	[1-161]
11502	[1-515]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11503	[1-154]
11504	[1-176]
11505	[1-238]
11506	[1-174]
11507	[1-177]
11508	[1-178]
11509	[1-212]
11510	[1-191]
11511	[1-318]
11512	[1-345]
11513	[1-317]
11514	[56-355]
11515	[149-479]
11516	[1-316]
11517	[1-314]
11518	[1-299]
11519	[1-224]
11520	[1-221]
11521	[1-388]
11522	[1-140]
11523	[1-172]
11524	[1-413]
11525	[1-147]
11526	[1-298]
11527	[1-597]
11528	[1-300]
11529	[1-303]
11530	[1-317]
11531	[1-457]
11532	[1-402]
11533	[1-387]
11534	[1-175]
11535	[1-312]
11536	[1-61]
11537	[1-371]
11538	[1-306]
11539	[1-313]
11540	[1-77]
11541	[1-463]
11542	[1-316]
11543	[1-297]
11544	[1-383]
11545	[1-456]
11546	[139-180]
11547	[1-209]
11548	[1-163]
11549	[1-268]
11550	[1-409]
11551	[1-493]
11552	[1-369]
11553	[1-220]
11554	[1-495]
11555	[1-328]
11556	[1-120]
11557	[1-70],[117-320]
11558	[1-530]
11559	[1-460]
11560	[1-114]
11561	[1-396]
11562	[1-147]
11563	[1-324]
11564	[1-280]
11565	[1-387]
11566	[1-148]
11567	[1-318]
11568	[1-305]
11569	[1-200]
11570	[1-200]
11571	[1-111]
11572	[1-93]
11573	[1-172]
11574	[1-159]
11575	[1-173]
11576	[1-408]
11577	[1-311]
11578	[1-125]
11579	[1-314]
11580	[1-162]
11581	[1-327]
11582	[1-309]
11583	[1-53]
11584	[1-333]
11585	[1-281]
11586	[1-160]
11587	[1-315]
11588	[1-431]
11589	[1-320]
11590	[1-200]
11591	[1-200]
11592	[1-171]
11593	[1-162]
11594	[1-118]
11595	[32-245]
11596	[1-86]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11597	[1-347]
11598	[1-200]
11599	[1-299]
11600	[1-347]
11601	[1-114]
11602	[1-168]
11603	[1-200]
11604	[1-371]
11605	[1-280]
11606	[1-157],[224-250]
11607	[1-165]
11608	[1-353]
11609	[1-385]
11610	[1-383]
11611	[1-174]
11612	[1-295]
11613	[1-68]
11614	[1-160]
11615	[1-281]
11616	[39-87]
11617	[1-225]
11619	[1-200]
11620	[1-322]
11621	[1-369]
11622	[1-166]
11623	[1-170]
11624	[1-152]
11625	[1-144]
11626	[1-225]
11627	[1-226]
11628	[1-341]
11629	[1-173]
11630	[1-316]
11631	[1-78]
11632	[1-195]
11633	[1-78]
11634	[1-221]
11635	[1-242]
11636	[1-134]
11638	[1-173]
11639	[1-127]
11640	[1-216]
11641	[1-303]
11642	[1-336]
11643	[1-112]
11644	[1-170]
11645	[1-109]

Seq Id No.	Positions of preferred fragments
11646	[1-122]
11647	[1-294]
11648	[1-189]
11649	[1-301]
11650	[1-152]
11651	[1-55]
11652	[1-109]
11653	[1-201]
11654	[1-110]
11655	[1-333]
11656	[1-127]
11657	[1-62]
11658	[1-63]
11659	[1-361]
11660	[1-149]
11661	[1-162]
11662	[1-225]
11663	[1-99]
11664	[1-81]
11665	[1-347]
11666	[1-173]
11667	[1-200]
11668	[1-163]
11669	[1-132]
11670	[1-329]
11671	[1-174]
11672	[1-305]
11673	[1-337]
11674	[1-75],[183-224],[275-473]
11675	[1-261]
11676	[1-107]
11677	[1-114]
11678	[1-144]
11679	[1-189]
11680	[1-174]
11681	[1-200]
11682	[1-104]
11683	[1-179]
11684	[1-194]
11685	[125-167]
11686	[1-129]
11687	[1-174]
11688	[1-158]
11689	[1-82]
11690	[1-378]
11691	[1-317]
11692	[1-118]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11693	[1-347]
11694	[1-278]
11695	[1-361]
11696	[1-430]
11697	[1-187]
11698	[1-140]
11699	[1-130]
11700	[1-373]
11701	[1-212]
11702	[1-155]
11703	[1-285]
11704	[1-365]
11705	[1-137]
11706	[1-377]
11707	[1-397]
11708	[1-128]
11709	[1-114]
11710	[1-84]
11711	[1-237]
11712	[1-490]
11713	[1-173]
11714	[1-191]
11715	[1-123]
11716	[1-200]
11717	[1-439]
11718	[1-199]
11719	[1-163]
11720	[1-195]
11721	[1-231]
11722	[1-172]
11723	[1-339]
11724	[1-171]
11725	[1-343]
11726	[1-394]
11727	[1-358]
11728	[1-200]
11729	[1-278]
11730	[1-303]
11731	[1-126]
11732	[1-142]
11733	[1-181]
11734	[1-311]
11735	[1-225]
11736	[1-213]
11737	[1-525]
11738	[1-126]
11739	[1-162]
11740	[1-80]
11741	[1-109]
11742	[1-364]
11743	[1-110]
11744	[1-98]
11745	[1-171]
11746	[1-305]
11747	[1-565]
11748	[1-187]
11749	[1-253]
11750	[1-311]
11751	[1-293]
11752	[1-302]
11754	[1-200]
11755	[1-302]
11756	[1-129]
11757	[1-462]
11758	[1-130]
11759	[1-136]
11760	[1-271]
11761	[1-136]
11762	[1-200]
11763	[1-309]
11764	[1-152]
11765	[1-196]
11766	[1-118]
11767	[1-111]
11768	[1-448]
11769	[1-283]
11770	[1-340]
11771	[1-173]
11772	[1-200]
11773	[1-200]
11774	[1-257]
11775	[1-174]
11776	[1-296]
11777	[1-170]
11778	[1-200]
11779	[1-207]
11780	[1-214]
11781	[1-110]
11782	[1-226]
11783	[1-126]
11784	[1-222]
11785	[1-200]
11786	[1-162]
11787	[1-254]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11788	[1-172]
11789	[1-186]
11790	[1-479]
11791	[1-316]
11792	[1-133]
11793	[1-358]
11794	[1-226]
11795	[1-192]
11796	[1-186]
11797	[1-90]
11798	[1-298]
11799	[1-106]
11800	[1-118]
11801	[1-224]
11802	[1-197]
11803	[1-213]
11804	[1-226]
11805	[1-340]
11806	[1-345]
11807	[1-243]
11808	[1-171]
11809	[1-207]
11810	[1-126]
11811	[1-235]
11812	[1-121]
11813	[1-172]
11814	[1-331]
11815	[1-117]
11816	[1-213]
11817	[1-79]
11818	[1-187]
11819	[1-53]
11820	[1-241]
11821	[1-122]
11822	[1-139]
11823	[1-173]
11824	[1-201]
11825	[1-200]
11826	[1-490]
11827	[1-305]
11828	[1-371]
11829	[1-336]
11830	[1-225]
11831	[1-306]
11832	[1-142]
11833	[1-492]
11834	[1-225]
11835	[1-200]
11836	[1-377]
11837	[1-303]
11838	[1-156]
11839	[1-181]
11840	[1-213]
11841	[1-82]
11842	[1-120]
11843	[1-507]
11844	[1-200]
11845	[1-158]
11846	[1-200]
11847	[1-190]
11848	[1-166]
11849	[1-364]
11850	[1-213]
11851	[1-246]
11852	[1-314]
11853	[1-200]
11854	[1-373]
11855	[1-345]
11856	[1-187]
11857	[1-148]
11858	[1-200]
11859	[1-128]
11860	[1-174]
11861	[1-99]
11862	[1-344]
11863	[1-164]
11864	[1-82]
11865	[1-200]
11866	[1-141]
11867	[1-304]
11868	[1-96]
11869	[1-170]
11870	[1-158]
11871	[1-336]
11872	[1-57]
11873	[1-366]
11874	[35-79]
11875	[1-37],[75-381]
11876	[1-59]
11877	[1-279]
11878	[1-174]
11879	[1-318]
11880	[1-360]
11881	[1-306]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11882	[1-188]
11883	[1-121]
11884	[1-547]
11885	[1-117]
11886	[1-209]
11887	[1-69]
11888	[1-82]
11889	[1-290]
11890	[1-281]
11891	[1-111]
11892	[1-98]
11893	[1-97]
11894	[1-99]
11895	[1-483]
11896	[1-314]
11897	[1-163]
11898	[1-143]
11899	[1-471]
11900	[1-118]
11901	[1-314]
11902	[1-200]
11903	[1-101]
11904	[1-207]
11905	[1-200]
11906	[1-322]
11907	[1-317]
11908	[1-296]
11909	[1-67]
11910	[1-174]
11911	[1-253]
11912	[1-68]
11914	[1-306]
11915	[1-173]
11916	[1-419]
11917	[1-298]
11918	[1-353]
11919	[1-200]
11920	[1-162]
11921	[1-123]
11922	[1-209]
11923	[1-155]
11924	[1-172]
11925	[1-172]
11926	[1-171]
11927	[1-509]
11928	[1-100]
11929	[1-307]
11930	[1-298]
11931	[1-201]
11932	[1-316]
11933	[1-225]
11934	[1-125]
11935	[1-314]
11936	[1-225]
11937	[1-226]
11938	[1-201]
11939	[1-303]
11940	[1-198]
11941	[1-343]
11942	[1-143]
11943	[1-292]
11944	[1-82]
11945	[1-173]
11946	[1-200]
11947	[1-343]
11948	[1-113]
11949	[1-82]
11950	[1-137]
11951	[1-301]
11952	[1-136]
11953	[1-108]
11954	[1-165]
11955	[1-119]
11956	[1-479]
11957	[1-152]
11958	[1-78]
11959	[1-273]
11960	[1-200]
11961	[1-235]
11962	[1-118]
11963	[1-173]
11964	[1-108]
11965	[1-200]
11966	[1-174]
11967	[1-61]
11968	[1-312]
11969	[1-314]
11970	[1-57]
11971	[1-312]
11972	[1-110]
11973	[1-316]
11974	[1-78]
11975	[1-89]
11976	[1-314]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
11977	[1-437]
11978	[1-106]
11979	[1-201]
11980	[1-132]
11981	[1-350]
11982	[1-311]
11983	[1-371]
11984	[1-331]
11985	[1-200]
11986	[1-173]
11987	[1-110]
11988	[1-112]
11989	[1-150],[273-311]
11990	[1-108]
11991	[1-79]
11992	[1-358]
11993	[1-118]
11994	[1-265]
11995	[1-102]
11996	[1-163]
11997	[1-121]
11998	[1-330]
11999	[1-291]
12000	[1-226]
12001	[1-99]
12002	[1-200]
12003	[1-250]
12004	[1-314]
12005	[1-68]
12006	[1-69]
12007	[1-103]
12008	[1-303]
12009	[1-321]
12010	[1-173]
12011	[1-170]
12012	[1-200]
12013	[1-181]
12014	[1-200]
12015	[1-82]
12016	[1-433]
12017	[1-306]
12018	[1-326]
12019	[1-180]
12020	[1-516]
12021	[1-293]
12022	[1-161]
12023	[1-200]
12024	[1-316]
12025	[1-110]
12026	[1-326]
12027	[1-142]
12028	[1-126]
12029	[1-219]
12030	[1-294]
12031	[1-355]
12032	[1-335]
12033	[1-315]
12034	[209-484]
12035	[1-187]
12036	[1-189]
12037	[1-77]
12038	[1-144]
12039	[99-154]
12040	[1-220]
12041	[1-294]
12042	[1-125]
12043	[1-129]
12044	[1-200]
12045	[1-120]
12046	[1-344]
12047	[1-173]
12048	[1-78]
12049	[1-154]
12050	[99-154]
12051	[1-163]
12052	[1-166]
12053	[1-145]
12054	[1-263]
12055	[1-313]
12056	[1-221]
12057	[1-194]
12058	[1-175]
12059	[1-333]
12060	[1-199]
12061	[1-155]
12062	[1-419]
12063	[1-447]
12064	[1-306]
12065	[1-200]
12066	[1-117]
12067	[1-383]
12068	[1-173]
12069	[1-114]
12070	[1-161]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12071	[1-452]
12072	[1-301]
12073	[1-174]
12074	[1-164]
12075	[1-163]
12076	[1-170]
12077	[1-240]
12078	[1-225]
12079	[1-106]
12080	[1-111]
12081	[1-317]
12082	[1-490]
12083	[1-115]
12084	[1-327]
12085	[1-221]
12086	[1-37],[70-242]
12087	[1-83]
12088	[1-82]
12089	[1-372]
12090	[1-243]
12091	[174-488]
12092	[1-124]
12093	[1-195]
12094	[1-143]
12095	[1-200]
12096	[1-368]
12097	[1-325]
12098	[1-170]
12099	[1-84]
12100	[1-472]
12101	[1-379]
12102	[1-66]
12103	[1-82]
12104	[1-200]
12105	[1-331]
12106	[1-74]
12107	[1-173]
12108	[1-53]
12109	[1-201]
12110	[1-251]
12111	[1-115]
12112	[1-478]
12113	[1-304]
12114	[1-244]
12115	[1-301]
12116	[1-112]
12117	[1-200]
12118	[1-109]
12119	[1-108]
12120	[1-424]
12121	[1-159]
12122	[1-324]
12123	[186-254]
12124	[1-324]
12125	[1-153]
12126	[1-337]
12127	[1-82]
12128	[1-200]
12129	[1-164]
12130	[1-77]
12131	[1-82]
12132	[1-200]
12133	[1-113]
12134	[1-51]
12135	[1-52]
12136	[1-200]
12137	[1-82]
12138	[1-321]
12139	[1-56]
12140	[1-104]
12141	[1-200]
12142	[1-420]
12143	[1-136]
12144	[1-108]
12145	[1-458]
12146	[1-459]
12147	[1-373]
12148	[1-171]
12149	[1-289]
12150	[1-57]
12151	[1-173]
12152	[1-207]
12153	[1-284]
12154	[1-225]
12155	[1-162]
12156	[1-200]
12157	[1-156]
12158	[1-200]
12159	[1-307]
12160	[1-98]
12161	[1-91]
12162	[1-120]
12163	[1-257]
12165	[1-50]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12166	[1-477]
12167	[1-118]
12168	[1-383]
12169	[1-312]
12170	[1-371]
12171	[1-172]
12172	[1-175]
12173	[1-125]
12174	[1-127]
12175	[1-83]
12176	[1-371]
12177	[1-520]
12178	[1-323]
12179	[1-163]
12180	[1-58]
12181	[1-159]
12182	[1-160]
12183	[1-317]
12184	[1-336]
12185	[1-111]
12186	[1-304]
12187	[1-157]
12188	[1-304]
12189	[1-161]
12190	[1-301]
12191	[1-383]
12192	[1-372]
12193	[33-211]
12194	[1-114]
12195	[1-83]
12196	[1-129]
12197	[171-387]
12198	[1-81]
12199	[1-173]
12200	[1-363]
12201	[1-200]
12202	[1-294]
12203	[1-360]
12204	[1-118]
12205	[1-172]
12206	[1-236]
12207	[1-311]
12208	[1-312]
12209	[1-439]
12210	[1-163]
12211	[1-209]
12212	[1-155]
12213	[1-243]
12214	[1-128]
12215	[1-508]
12216	[1-94]
12217	[1-163]
12218	[1-440]
12219	[1-192]
12220	[1-225]
12221	[1-162]
12222	[1-443]
12223	[1-226]
12224	[1-200]
12225	[1-78]
12226	[1-127]
12227	[1-361]
12228	[1-134]
12229	[1-176]
12231	[1-63]
12232	[1-457]
12233	[1-172]
12234	[1-343]
12235	[1-174]
12236	[1-313]
12237	[1-383]
12238	[1-380]
12239	[1-485]
12240	[1-176]
12241	[1-372]
12242	[1-171]
12243	[1-163]
12244	[1-485]
12245	[1-155]
12246	[1-211]
12247	[1-353]
12248	[1-314]
12249	[1-225]
12250	[1-173]
12251	[1-104]
12252	[1-247]
12253	[1-173]
12254	[1-162]
12255	[1-327]
12256	[1-190]
12257	[1-200]
12258	[1-200]
12259	[1-225]
12260	[1-170]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12261	[1-93]
12262	[1-116]
12263	[1-112]
12264	[1-159]
12266	[1-77]
12267	[1-438]
12268	[1-365]
12269	[1-302]
12270	[1-175]
12271	[1-124]
12272	[1-175]
12273	[1-99]
12274	[1-187]
12275	[1-367]
12276	[1-78]
12277	[1-98]
12278	[1-219]
12279	[1-360]
12280	[1-341]
12281	[1-174]
12282	[1-225]
12283	[1-372]
12284	[1-370]
12285	[1-165]
12286	[1-200]
12287	[1-488]
12288	[1-310]
12289	[1-209]
12290	[1-351]
12291	[1-124]
12292	[1-255]
12293	[1-485]
12294	[1-174]
12295	[1-300]
12296	[1-339]
12297	[1-243]
12298	[1-67]
12299	[1-78]
12300	[1-170]
12301	[1-200]
12302	[1-174]
12303	[1-309]
12304	[1-74]
12305	[1-246]
12306	[1-489]
12307	[1-215]
12308	[1-162]

Seq Id No.	Positions of preferred fragments
12309	[1-92]
12310	[1-296]
12311	[1-149]
12312	[1-401]
12313	[1-235]
12314	[1-444]
12315	[1-135]
12316	[1-372]
12317	[1-400]
12318	[1-475]
12319	[1-337]
12320	[1-225]
12322	[1-82]
12323	[1-200]
12324	[1-310]
12325	[1-117]
12326	[1-289]
12327	[1-128]
12328	[1-141]
12329	[1-314]
12330	[1-123]
12331	[1-174]
12332	[1-53]
12333	[1-302]
12334	[1-163]
12335	[1-162]
12336	[1-173]
12337	[1-142]
12338	[1-155]
12339	[1-366]
12340	[1-314]
12341	[1-80]
12342	[1-360]
12343	[1-225]
12344	[1-187]
12345	[1-173]
12346	[1-147]
12347	[1-354]
12348	[1-108]
12349	[1-225]
12350	[1-224]
12351	[1-307]
12352	[1-144]
12353	[1-200]
12354	[1-132]
12355	[1-318]
12356	[1-212],[254-373]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12357	[1-200]
12358	[1-173]
12359	[1-173]
12360	[1-200]
12361	[1-344]
12362	[1-213]
12363	[1-96]
12364	[1-143]
12365	[1-444]
12366	[1-371]
12367	[1-89]
12368	[1-82]
12369	[1-108]
12370	[1-173]
12371	[1-105]
12372	[1-202]
12373	[1-313]
12374	[1-130]
12375	[1-449]
12376	[1-375]
12377	[1-55]
12378	[1-134]
12379	[1-137]
12380	[1-305]
12381	[1-200]
12382	[1-162]
12383	[1-175]
12384	[1-243]
12385	[1-343]
12386	[1-433]
12387	[1-354]
12388	[1-162]
12389	[1-111]
12390	[1-72]
12391	[1-170]
12392	[1-101]
12393	[1-302]
12394	[1-253]
12395	[1-123]
12396	[1-200]
12397	[1-111]
12398	[1-78]
12399	[1-369]
12400	[1-153]
12401	[1-148]
12402	[1-174]
12403	[1-108]

Seq Id No.	Positions of preferred fragments
12404	[1-66]
12405	[1-311]
12406	[1-156]
12407	[1-158]
12408	[1-293]
12409	[1-197]
12410	[1-200]
12411	[1-200]
12412	[1-486]
12413	[1-277]
12414	[1-163]
12415	[1-173]
12416	[1-162]
12417	[1-109]
12418	[1-312]
12419	[1-173]
12420	[1-355]
12421	[1-163]
12422	[1-140]
12423	[1-327]
12424	[1-173]
12425	[1-306]
12426	[1-225]
12427	[1-129]
12428	[1-314]
12429	[1-83]
12430	[1-97]
12431	[1-158]
12432	[1-125]
12433	[1-367]
12434	[1-82]
12435	[1-346]
12436	[1-70]
12437	[1-507]
12438	[1-158]
12439	[1-294]
12440	[1-70]
12441	[1-94]
12442	[1-374]
12443	[1-280]
12444	[1-143]
12445	[1-187]
12446	[1-76]
12447	[1-331]
12448	[1-107]
12449	[1-173]
12450	[1-83]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12451	[1-200]
12453	[1-154]
12454	[1-69]
12455	[1-99]
12456	[1-408]
12457	[1-455]
12459	[1-369]
12460	[1-432]
12461	[1-422]
12462	[1-325]
12463	[52-372]
12464	[1-70]
12465	[81-138],[190-287]
12466	[1-418]
12467	[1-34],[121-440]
12468	[1-325]
12469	[1-414]
12470	[1-485]
12471	[1-94]
12472	[1-485]
12473	[1-450]
12474	[1-217]
12475	[1-335]
12476	[1-478]
12477	[1-473]
12478	[1-460]
12479	[1-437]
12480	[1-60]
12481	[1-459]
12482	[1-438]
12483	[1-486]
12484	[1-489]
12485	[1-483]
12486	[1-385]
12487	[1-196]
12488	[32-509]
12489	[1-380]
12490	[1-299]
12491	[1-393]
12492	[1-469]
12493	[1-436]
12494	[1-458]
12495	[1-230]
12496	[1-494]
12497	[1-468]
12498	[1-454]
12499	[1-146]

Seq Id No.	Positions of preferred fragments
12500	[1-127]
12501	[1-129]
12502	[1-510]
12503	[1-276]
12504	[50-470]
12505	[1-462]
12506	[1-134]
12507	[1-419]
12508	[1-455]
12509	[1-445]
12510	[1-458]
12511	[1-238]
12512	[1-442]
12514	[1-233]
12515	[1-406]
12516	[1-75]
12517	[53-399]
12518	[53-118]
12519	[32-495]
12520	[1-240]
12521	[1-527]
12522	[1-531]
12523	[1-450]
12524	[1-104]
12525	[1-448]
12526	[1-415]
12527	[1-312]
12528	[1-472]
12529	[1-483]
12530	[1-53]
12531	[1-302]
12532	[1-465]
12533	[1-445]
12534	[1-106]
12535	[1-440]
12536	[1-193]
12537	[1-347]
12538	[1-421]
12539	[1-103]
12540	[1-477]
12541	[1-473]
12542	[1-266]
12543	[1-315]
12544	[1-476]
12545	[1-443]
12546	[1-488]
12547	[1-146]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12548	[49-104]
12549	[1-194]
12550	[1-414]
12551	[1-163]
12552	[1-450]
12553	[1-419]
12554	[1-307]
12555	[1-468]
12556	[1-425]
12557	[1-395]
12558	[1-146],[266-493]
12559	[1-471]
12560	[1-234]
12561	[1-479]
12562	[1-428]
12564	[1-458]
12565	[1-335]
12566	[1-77]
12567	[1-422]
12568	[1-373]
12569	[1-392]
12570	[53-393]
12571	[1-90],[121-314]
12572	[1-477]
12573	[1-134]
12574	[1-428]
12575	[1-70]
12576	[1-304]
12577	[1-318]
12578	[1-59]
12579	[1-432]
12580	[1-444]
12581	[1-409]
12582	[1-224],[311-444]
12583	[1-467]
12584	[1-423]
12585	[1-423]
12586	[1-328]
12587	[1-393]
12588	[1-95]
12589	[1-76]
12590	[1-440]
12591	[1-222]
12592	[1-156]
12593	[1-473]
12594	[1-412]
12595	[1-398]
12596	[46-102]
12597	[1-370]
12598	[1-461]
12599	[1-54]
12600	[1-169]
12601	[1-243]
12602	[1-397]
12603	[1-478]
12604	[1-436]
12605	[1-377]
12606	[1-458]
12607	[1-90]
12608	[1-64]
12609	[55-106],[203-255]
12610	[1-521]
12611	[34-347]
12612	[1-200]
12613	[1-409]
12614	[1-376]
12615	[1-397]
12616	[1-506]
12617	[1-458]
12618	[1-544]
12619	[1-463]
12620	[1-325]
12621	[1-70]
12622	[1-97]
12623	[1-274]
12624	[1-466]
12625	[1-109],[142-438]
12626	[1-147]
12627	[1-272]
12628	[1-412]
12629	[1-409]
12630	[1-456]
12631	[1-297]
12632	[1-263]
12633	[1-421]
12634	[1-146]
12635	[1-553]
12636	[1-426]
12638	[1-449]
12639	[1-432]
12640	[1-67]
12641	[105-402]
12642	[1-291]
12643	[1-488]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12644	[1-344]
12645	[1-316]
12646	[1-139]
12647	[1-122]
12648	[1-331]
12649	[1-424]
12650	[1-395]
12651	[1-344]
12652	[1-60]
12653	[1-347]
12654	[1-324]
12655	[1-422]
12656	[1-152]
12657	[1-54]
12658	[1-145]
12659	[1-321]
12660	[1-240]
12661	[1-292]
12662	[1-177]
12663	[1-87]
12664	[1-424]
12665	[1-396]
12667	[1-380]
12668	[1-182]
12669	[1-490]
12670	[1-526]
12671	[1-120]
12672	[1-459]
12673	[1-505]
12674	[1-292]
12675	[1-444]
12676	[1-298]
12677	[1-429]
12678	[251-326],[367-397]
12679	[1-328]
12680	[1-318]
12681	[1-88]
12682	[1-83]
12683	[1-460]
12684	[1-177]
12685	[1-361]
12687	[1-145]
12688	[1-468]
12689	[1-281]
12690	[1-453]
12691	[1-460]
12692	[1-61]
12693	[1-193]
12694	[1-447]
12695	[1-315]
12696	[1-108]
12697	[1-398]
12698	[1-267]
12699	[1-318]
12700	[1-385]
12701	[1-50]
12702	[1-286]
12703	[124-315]
12704	[1-219]
12705	[1-63]
12706	[1-184]
12707	[1-199]
12708	[1-299]
12710	[1-81]
12711	[1-293]
12712	[1-372]
12713	[1-208]
12714	[97-264]
12715	[1-120]
12716	[1-479]
12717	[1-169]
12718	[1-328]
12719	[1-333]
12720	[1-291]
12722	[1-329]
12723	[1-400]
12724	[1-224],[311-499]
12725	[1-263]
12726	[1-322]
12727	[1-261]
12728	[1-138]
12729	[1-243]
12730	[1-413]
12731	[1-393]
12733	[1-387]
12734	[1-173]
12735	[71-416]
12736	[1-45],[219-348]
12737	[1-494]
12738	[1-56]
12740	[1-257]
12741	[1-310]
12743	[1-155]
12744	[1-290]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12746	[1-443]
12749	[1-434]
12750	[1-274]
12751	[73-397]
12752	[1-432]
12753	[1-187]
12754	[1-224]
12755	[1-412]
12756	[1-343]
12757	[1-480]
12758	[1-409]
12759	[1-329]
12760	[1-376]
12761	[1-308]
12762	[1-199]
12763	[1-411]
12764	[1-192]
12765	[1-141]
12766	[236-480]
12767	[1-85]
12768	[1-130]
12769	[1-393]
12770	[1-393]
12771	[1-389]
12772	[1-227]
12773	[1-362]
12774	[1-100]
12775	[1-242]
12776	[1-424]
12777	[1-458]
12778	[1-64]
12779	[1-43],[76-271]
12781	[1-174]
12782	[1-340]
12783	[1-320]
12784	[1-351]
12785	[1-74]
12786	[1-458]
12787	[1-274]
12788	[1-405]
12789	[1-118]
12790	[1-473]
12791	[1-185]
12792	[1-369]
12793	[1-152]
12794	[1-335]
12795	[1-236]

Seq Id No.	Positions of preferred fragments
12796	[1-479]
12797	[1-288]
12798	[1-392]
12799	[1-253]
12800	[1-445]
12801	[32-339]
12802	[1-438]
12803	[1-249],[281-396]
12804	[1-263]
12805	[1-140]
12806	[1-185]
12807	[1-442]
12808	[1-338]
12809	[1-236]
12810	[1-455]
12811	[1-97]
12812	[1-180]
12813	[1-308]
12814	[1-226]
12815	[1-345]
12816	[1-500]
12817	[1-115]
12818	[1-122]
12819	[1-67]
12820	[1-435]
12821	[1-472]
12822	[1-169]
12823	[1-530]
12824	[1-101]
12825	[1-154]
12826	[64-373]
12827	[1-58]
12828	[1-505]
12829	[1-116]
12830	[1-111]
12831	[1-398]
12832	[1-475]
12833	[1-67]
12834	[1-429]
12835	[1-552]
12836	[1-358]
12837	[1-363]
12838	[1-421]
12839	[1-267]
12840	[1-454]
12841	[1-316]
12842	[1-434]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12843	[1-515]
12845	[1-327]
12846	[1-442]
12847	[1-285]
12848	[1-451]
12849	[1-441]
12850	[1-415]
12851	[1-497]
12852	[1-397]
12853	[1-476]
12854	[1-513]
12855	[1-115]
12856	[1-97]
12857	[1-267]
12858	[1-144],[191-397]
12859	[1-313]
12860	[1-492]
12861	[1-326]
12862	[1-303]
12863	[1-536]
12864	[1-238]
12865	[1-475]
12866	[1-356]
12867	[1-208]
12868	[1-319]
12869	[1-443]
12870	[1-118]
12871	[1-320]
12872	[31-440]
12873	[1-359]
12874	[1-400]
12875	[1-443]
12876	[1-129]
12877	[1-484]
12878	[1-357]
12879	[1-611]
12880	[1-425]
12881	[1-106]
12882	[1-473]
12883	[1-397]
12884	[1-496]
12885	[1-101]
12886	[1-439]
12887	[1-307]
12888	[1-297]
12889	[1-68]
12890	[1-211]

Seq Id No.	Positions of preferred fragments
12891	[1-454]
12892	[1-130]
12893	[1-184]
12894	[1-289]
12895	[1-335]
12896	[1-323]
12897	[1-397]
12898	[1-440]
12899	[1-345]
12900	[1-459]
12901	[1-352]
12902	[1-318]
12903	[1-124]
12904	[1-468]
12905	[1-479]
12906	[99-288]
12907	[1-357]
12908	[1-380]
12909	[1-300]
12910	[1-476]
12911	[1-431]
12912	[1-257]
12913	[1-271]
12914	[1-283]
12915	[1-297]
12916	[1-307]
12917	[44-203]
12918	[1-61]
12919	[1-274]
12920	[1-80],[120-209]
12921	[1-338]
12922	[1-68]
12923	[1-184]
12924	[1-502]
12925	[148-421]
12926	[1-491]
12927	[1-414]
12928	[1-259]
12929	[1-222]
12930	[1-71]
12931	[1-53]
12932	[1-339]
12933	[1-493]
12934	[1-276]
12935	[1-135]
12936	[1-350]
12937	[1-109],[188-256]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
12938	[1-340]
12939	[1-62]
12940	[1-372]
12941	[1-330]
12942	[1-413]
12943	[1-417]
12944	[1-514]
12945	[1-482]
12946	[1-324]
12947	[1-399]
12948	[36-281]
12949	[217-365]
12950	[1-513]
12951	[1-308]
12952	[1-82]
12953	[1-315]
12954	[1-509]
12955	[1-175]
12956	[1-473]
12957	[1-452]
12958	[1-324]
12959	[1-311]
12960	[1-372]
12961	[1-458]
12962	[1-494]
12963	[1-184],[228-287]
12964	[1-366]
12965	[1-288]
12966	[1-376],[460-509]
12967	[1-497]
12968	[1-540]
12969	[1-313]
12970	[1-345]
12971	[1-486]
12972	[1-188]
12973	[1-254]
12974	[1-526]
12975	[1-477]
12976	[1-471]
12977	[1-161]
12978	[1-397]
12979	[1-361]
12980	[1-404]
12981	[1-450]
12982	[1-309]
12983	[1-356]
12984	[1-351]
12985	[1-465]
12986	[1-188]
12987	[1-439]
12988	[46-103]
12989	[1-294]
12990	[1-299]
12991	[1-440]
12992	[1-307]
12993	[1-348]
12994	[1-324]
12995	[1-441]
12996	[1-354]
12997	[1-155]
12998	[99-156]
12999	[1-419]
13000	[1-359]
13001	[1-325]
13002	[1-293]
13003	[1-119]
13004	[1-471]
13005	[1-291]
13006	[1-99]
13007	[1-94]
13008	[1-346]
13009	[1-329]
13010	[1-498]
13011	[1-91]
13012	[1-364]
13013	[1-284]
13014	[1-309]
13015	[1-443]
13016	[1-508]
13017	[1-420]
13018	[1-487]
13019	[1-347]
13020	[1-435]
13022	[1-311]
13023	[94-528]
13024	[1-304]
13025	[311-435]
13026	[1-268]
13027	[1-484]
13028	[91-498]
13029	[1-386]
13030	[1-445]
13031	[1-433]
13032	[1-64]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13033	[1-336]
13034	[1-524]
13035	[1-330]
13036	[1-315]
13037	[1-483]
13038	[1-462]
13039	[1-456]
13040	[1-468]
13041	[1-442]
13042	[327-486]
13043	[1-127]
13044	[1-306]
13045	[1-413]
13046	[1-309]
13047	[1-109]
13048	[1-152]
13049	[1-59],[141-396]
13050	[1-438]
13051	[1-179]
13052	[1-425]
13053	[1-204]
13054	[1-381]
13055	[1-178]
13056	[1-542]
13057	[1-198],[295-448]
13058	[1-219]
13059	[1-192]
13060	[1-294]
13061	[1-430]
13062	[1-341]
13063	[1-381]
13064	[1-442]
13065	[1-295]
13066	[1-492]
13067	[1-500]
13068	[1-353]
13069	[1-53]
13070	[1-292]
13071	[1-434]
13072	[1-361]
13073	[1-469]
13074	[1-295]
13076	[1-390]
13077	[1-82]
13078	[1-506]
13079	[1-72]
13080	[1-438]
13082	[1-320]
13083	[1-400]
13084	[1-59]
13085	[1-458]
13086	[1-207]
13087	[1-461]
13088	[1-416]
13089	[1-319]
13090	[1-266]
13091	[1-311]
13092	[1-426]
13093	[1-219]
13094	[1-320]
13095	[1-97]
13096	[1-179]
13097	[1-289]
13098	[1-360],[459-496]
13100	[1-346]
13101	[1-503]
13102	[1-272]
13103	[1-282]
13104	[1-302]
13105	[1-370]
13106	[1-69]
13107	[1-272]
13108	[1-319]
13109	[1-235]
13110	[1-375]
13111	[1-325]
13112	[1-298]
13113	[1-179]
13114	[1-219]
13115	[1-499]
13116	[1-317]
13117	[1-461]
13118	[1-295]
13119	[1-507]
13120	[1-258]
13121	[1-357]
13122	[1-125]
13123	[1-82]
13124	[1-298]
13125	[1-85]
13126	[1-185]
13127	[1-327]
13128	[1-322]
13129	[1-319]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13130	[1-473]
13132	[1-204]
13133	[1-389]
13134	[1-256]
13135	[1-444]
13136	[1-518]
13137	[1-316]
13138	[1-441]
13140	[1-280]
13141	[1-394]
13142	[1-395]
13143	[1-328]
13144	[1-81]
13145	[1-280]
13146	[1-376]
13147	[1-307]
13148	[1-263]
13149	[1-131]
13150	[1-630]
13151	[1-474]
13152	[1-81]
13153	[1-457]
13154	[1-402]
13155	[1-440]
13156	[1-384]
13157	[1-297]
13158	[1-378]
13159	[1-262]
13160	[1-428]
13161	[1-326]
13162	[1-432]
13163	[1-459]
13164	[1-148],[301-438]
13165	[1-445]
13166	[1-461]
13167	[1-85]
13168	[1-495]
13169	[1-340]
13170	[1-198]
13171	[1-113]
13172	[1-382]
13173	[1-407]
13174	[1-407]
13175	[1-470]
13176	[1-438]
13177	[1-421]
13178	[1-431]
13179	[1-493]
13180	[1-230],[270-667]
13181	[1-197]
13182	[1-457]
13184	[1-325]
13185	[196-385]
13186	[1-454]
13187	[1-197]
13188	[1-317]
13190	[1-346]
13191	[1-455]
13192	[1-486]
13193	[1-66]
13194	[1-160]
13195	[1-372]
13196	[1-185]
13197	[91-498]
13198	[1-479]
13199	[1-227]
13200	[1-420]
13201	[1-73]
13202	[1-339]
13203	[1-230]
13204	[1-92],[233-297]
13205	[1-374]
13206	[1-431]
13207	[1-450]
13208	[1-404]
13209	[59-105],[237-490]
13210	[1-171]
13211	[32-76]
13212	[1-447]
13213	[1-454]
13214	[1-349]
13215	[1-59]
13217	[1-433]
13218	[1-469]
13219	[1-128]
13220	[1-351]
13221	[1-459]
13222	[1-477]
13223	[1-56]
13224	[1-318]
13225	[1-499]
13226	[1-478]
13227	[1-86]
13228	[1-419]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13229	[1-446]
13230	[1-517]
13231	[1-444]
13232	[1-443]
13233	[1-455]
13234	[1-444]
13235	[1-446]
13236	[1-454]
13237	[1-452]
13238	[1-473]
13239	[1-433]
13240	[1-414]
13241	[1-437]
13242	[1-432]
13243	[1-89]
13244	[47-387]
13245	[1-467]
13246	[376-459]
13247	[1-109]
13248	[1-457]
13249	[1-316],[347-485]
13250	[1-445]
13251	[1-174]
13252	[1-167],[213-469]
13253	[1-450]
13254	[1-488]
13255	[39-257]
13256	[91-479]
13257	[1-464]
13258	[1-469]
13259	[1-28],[90-184]
13260	[1-475]
13261	[1-289]
13262	[132-175]
13264	[1-94]
13265	[1-467]
13266	[1-197]
13267	[1-36],[124-173]
13268	[1-30],[79-171]
13269	[1-404]
13270	[1-215]
13271	[1-367]
13272	[1-465]
13273	[1-199]
13274	[1-322]
13275	[1-419]
13276	[1-432]

Seq Id No.	Positions of preferred fragments
13277	[1-466]
13278	[1-351]
13279	[1-465]
13280	[1-434]
13281	[66-202]
13283	[1-341]
13284	[1-442]
13285	[1-441]
13286	[264-303]
13287	[1-305]
13288	[1-455]
13289	[1-455]
13290	[1-487]
13291	[1-269]
13292	[1-313]
13293	[1-200]
13294	[94-257]
13295	[1-171]
13296	[1-269]
13297	[1-192]
13298	[1-474]
13299	[1-87]
13300	[1-75]
13301	[1-449]
13302	[1-300]
13303	[1-338]
13304	[1-423]
13305	[1-250]
13306	[1-200]
13307	[1-461]
13308	[1-304]
13309	[1-140]
13310	[1-236]
13311	[1-325]
13312	[1-415]
13313	[1-370]
13314	[1-50]
13315	[1-386]
13316	[1-208]
13317	[1-142]
13318	[1-314]
13319	[1-355]
13320	[1-319]
13321	[1-382]
13322	[1-375]
13323	[1-85]
13324	[1-467]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13325	[1-380]
13326	[1-432]
13327	[1-298]
13328	[1-159]
13329	[1-129]
13330	[1-160]
13331	[1-485]
13332	[1-111]
13333	[1-187]
13334	[1-176]
13335	[42-481]
13336	[1-500]
13337	[1-422]
13338	[1-446]
13339	[1-130]
13340	[1-348]
13341	[1-200]
13342	[1-290]
13343	[1-195]
13344	[1-87]
13345	[1-376]
13346	[1-476]
13347	[1-429]
13348	[1-179]
13349	[1-339]
13350	[1-300]
13351	[1-439]
13352	[1-267]
13353	[1-339]
13354	[1-156]
13355	[1-377]
13356	[1-342]
13357	[1-352]
13358	[1-171]
13359	[66-134],[183-293]
13360	[464-513]
13361	[155-345]
13362	[1-291]
13363	[1-130],[174-212],[278-342]
13364	[1-225]
13367	[66-134],[183-342]
13368	[1-438]
13369	[1-79]
13370	[1-335]
13371	[1-294]
13372	[1-229]
13373	[1-267]

Seq Id No.	Positions of preferred fragments
13374	[1-279]
13375	[1-159],[208-349]
13377	[284-434]
13378	[1-303]
13379	[1-208],[264-437]
13380	[82-287]
13381	[1-137],[171-416]
13382	[1-228],[328-460]
13383	[1-409]
13384	[66-134],[183-337]
13385	[1-335]
13386	[1-453]
13387	[1-473]
13388	[1-469]
13389	[1-83]
13390	[1-378]
13391	[1-390]
13392	[93-160]
13393	[1-172]
13394	[1-461]
13395	[1-85]
13396	[1-117]
13397	[1-469]
13398	[1-134],[183-326]
13399	[1-280]
13400	[1-269]
13401	[1-225]
13402	[1-446]
13403	[1-421]
13404	[1-263]
13406	[1-202],[287-481]
13407	[93-160],[209-357]
13408	[1-26]
13409	[1-366]
13410	[1-438]
13411	[1-267]
13412	[93-161],[209-366]
13413	[1-419]
13414	[1-358]
13415	[1-268]
13416	[1-68]
13417	[1-313]
13418	[147-187]
13419	[1-311]
13420	[93-160],[209-351]
13421	[1-457]
13422	[1-466]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13423	[1-440]
13424	[1-447]
13425	[248-369]
13426	[1-99]
13427	[1-480]
13428	[1-159]
13429	[1-169]
13430	[1-459]
13431	[1-304]
13432	[1-415]
13433	[155-219],[256-426]
13434	[1-372]
13435	[57-141]
13436	[1-313]
13438	[1-464]
13439	[1-464]
13440	[1-147]
13441	[53-293]
13442	[1-511]
13443	[93-160]
13444	[1-120]
13445	[1-441]
13446	[1-300]
13447	[1-388]
13448	[1-54]
13449	[1-269]
13450	[1-403]
13451	[1-303]
13452	[1-181],[285-328]
13453	[1-99],[218-465]
13454	[1-441]
13455	[1-429]
13456	[1-191]
13457	[1-91]
13458	[1-81]
13459	[1-90],[158-205],[252-341]
13460	[271-312]
13461	[1-56]
13462	[1-267]
13463	[1-370]
13464	[1-91]
13465	[1-263]
13466	[1-482]
13467	[1-459]
13468	[1-132]
13469	[1-69]
13470	[217-428]
13471	[1-426]
13472	[1-461]
13473	[1-464]
13474	[111-350]
13475	[1-342]
13476	[1-126],[162-362]
13478	[1-447]
13479	[1-202]
13480	[1-63]
13481	[1-495]
13482	[1-466]
13483	[1-295]
13484	[1-374]
13485	[1-478]
13486	[1-370]
13487	[1-170]
13488	[1-200]
13490	[1-200]
13491	[36-214],[245-482]
13492	[1-66]
13494	[1-313]
13495	[1-254]
13496	[1-150],[247-312]
13497	[1-72]
13498	[1-50]
13499	[1-82]
13500	[1-200]
13501	[1-354]
13502	[1-329]
13503	[1-321]
13504	[1-201]
13505	[1-481]
13508	[1-330]
13509	[1-336]
13510	[1-383]
13511	[1-112]
13512	[1-293]
13513	[1-495]
13514	[1-483]
13515	[1-337]
13516	[1-267]
13517	[1-207]
13518	[1-378]
13519	[1-372]
13520	[1-271]
13521	[1-144]
13522	[1-225]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
13523	[1-215]	13572	[1-109]
13524	[1-119]	13573	[1-224]
13525	[1-243]	13574	[1-342]
13526	[1-82]	13575	[1-200]
13527	[1-150],[247-310]	13576	[1-161]
13528	[1-200]	13577	[1-149]
13529	[1-170]	13578	[1-150],[247-312]
13530	[1-337]	13579	[1-70]
13531	[1-63]	13580	[1-51]
13532	[1-133]	13581	[1-272]
13533	[1-97]	13582	[1-111]
13534	[1-115]	13583	[1-152]
13535	[1-374]	13584	[1-412]
13536	[1-254]	13585	[1-118]
13537	[1-344]	13586	[1-504]
13538	[1-200]	13587	[1-374]
13539	[1-112]	13588	[1-313]
13540	[1-354]	13589	[1-175]
13541	[1-309]	13590	[1-366]
13542	[1-348]	13591	[1-175]
13543	[1-361]	13592	[1-91]
13544	[1-161]	13593	[1-235]
13545	[1-200]	13594	[1-144]
13546	[1-186]	13595	[1-173]
13547	[1-129]	13596	[1-111]
13548	[1-232]	13597	[1-270]
13549	[1-134]	13598	[1-306]
13550	[1-170]	13599	[1-225]
13551	[1-225]	13600	[1-157]
13552	[1-97]	13601	[1-81]
13553	[1-162]	13602	[1-375]
13554	[1-78]	13603	[1-125]
13555	[1-338]	13604	[1-312]
13556	[1-446]	13605	[1-342]
13557	[1-419]	13606	[1-183]
13558	[1-125]	13607	[1-112]
13559	[1-129]	13608	[1-120]
13560	[1-380]	13609	[1-108]
13561	[1-285]	13610	[1-399]
13563	[1-383]	13611	[1-377]
13564	[1-310]	13612	[1-303]
13566	[1-93]	13613	[1-506]
13567	[1-119]	13614	[1-165]
13568	[1-297]	13615	[1-504]
13569	[1-156]	13617	[1-108],[159-246]
13570	[1-324]	13618	[1-494]
13571	[1-115]	13619	[1-436]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13620	[1-92]
13621	[1-522]
13622	[1-443]
13623	[1-221],[302-460]
13624	[1-386]
13625	[1-476]
13628	[1-115]
13629	[1-514]
13630	[1-232]
13631	[1-471]
13632	[1-105],[166-507]
13633	[1-466]
13634	[1-513]
13635	[1-169],[230-321]
13636	[151-257]
13637	[1-504]
13638	[1-465]
13640	[1-443]
13641	[1-385]
13643	[1-328]
13644	[1-362]
13645	[1-480]
13646	[1-116]
13647	[1-113]
13648	[1-269]
13649	[1-62]
13650	[57-182]
13651	[1-486]
13652	[1-442]
13653	[1-475]
13654	[1-79]
13655	[1-284]
13656	[1-473]
13658	[1-145]
13659	[1-490]
13660	[1-481]
13661	[1-202]
13662	[1-102]
13663	[1-440]
13664	[1-447]
13665	[1-471]
13666	[1-55]
13667	[1-253]
13668	[1-475]
13669	[1-456]
13670	[1-230]
13671	[1-371]
13672	[1-173]
13673	[1-460]
13674	[1-447]
13675	[1-479]
13676	[1-70]
13677	[147-468]
13678	[1-467]
13679	[1-192]
13680	[1-355]
13681	[1-463]
13682	[1-424]
13683	[1-454]
13684	[1-297],[344-505]
13685	[143-173]
13686	[1-376]
13687	[1-103],[211-469]
13688	[1-291]
13689	[1-402]
13690	[1-510]
13691	[1-492]
13693	[1-511]
13694	[1-229]
13695	[1-513]
13696	[1-472]
13697	[1-312]
13698	[1-424]
13699	[1-130]
13700	[1-266]
13701	[1-466]
13702	[1-366]
13703	[1-446]
13704	[1-479]
13705	[1-462]
13706	[1-474]
13707	[1-203]
13708	[1-486]
13709	[1-431]
13710	[1-425]
13711	[1-468]
13712	[158-358]
13713	[1-498]
13714	[1-237],[383-465]
13715	[1-467]
13716	[1-499]
13717	[1-504]
13718	[1-489]
13719	[1-420]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
13720	[1-507]	13768	[1-392]
13721	[1-487]	13769	[1-97]
13722	[1-468]	13770	[1-178]
13723	[1-372]	13771	[1-463]
13724	[1-116]	13772	[1-396]
13725	[1-483]	13773	[1-313]
13726	[1-454]	13774	[1-582]
13727	[1-510]	13775	[1-507]
13728	[1-458]	13776	[1-342]
13729	[1-417]	13777	[1-407]
13730	[1-137]	13778	[1-475]
13731	[1-370]	13779	[1-534]
13732	[1-113]	13780	[1-348]
13733	[45-408]	13781	[1-196]
13734	[168-472]	13782	[1-485]
13735	[1-263]	13783	[1-134]
13736	[1-70],[418-483]	13784	[1-266]
13737	[1-476]	13785	[137-417]
13738	[1-282]	13786	[1-499]
13739	[1-469]	13787	[1-478]
13740	[1-348]	13788	[1-605]
13741	[132-357]	13789	[1-472]
13742	[1-483]	13790	[1-83]
13743	[132-396]	13791	[1-500]
13744	[1-468]	13792	[395-449]
13745	[1-480]	13793	[1-433]
13746	[1-191],[239-449]	13794	[1-394]
13747	[1-462]	13795	[1-507]
13748	[1-491]	13796	[1-363]
13749	[1-361]	13797	[1-146]
13750	[1-287]	13798	[1-518]
13751	[1-436]	13799	[1-294]
13752	[1-59]	13800	[1-343]
13753	[1-63]	13801	[1-420]
13755	[1-461]	13802	[1-465]
13756	[1-93]	13803	[1-369]
13757	[110-493]	13804	[124-477]
13758	[1-433]	13805	[1-139]
13759	[1-61]	13806	[59-316]
13760	[1-437]	13807	[1-348]
13761	[1-60]	13808	[1-72]
13762	[1-136]	13809	[1-125],[157-471]
13763	[250-335]	13810	[53-193],[294-333]
13764	[1-493]	13811	[1-466]
13765	[1-115]	13812	[1-320]
13766	[1-459]	13813	[1-294]
13767	[1-543]	13814	[1-475]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13815	[1-481]
13816	[1-41]
13817	[1-369],[431-472]
13818	[1-443]
13819	[1-372]
13820	[1-105]
13821	[1-428]
13822	[1-485]
13823	[1-257]
13824	[1-139]
13825	[1-477]
13826	[1-460]
13827	[1-481]
13828	[1-52]
13829	[1-471]
13830	[1-428]
13831	[1-84]
13832	[1-84],[224-496]
13833	[1-402]
13834	[1-479]
13835	[1-487]
13836	[1-71]
13837	[99-537]
13838	[1-481]
13839	[66-227],[259-452]
13840	[1-177]
13841	[1-353]
13842	[1-63]
13843	[1-494]
13844	[1-429]
13845	[1-472]
13846	[1-268]
13847	[1-316]
13848	[69-108],[214-390]
13849	[1-147]
13850	[1-544]
13851	[1-234]
13852	[1-52]
13853	[1-304]
13854	[1-486]
13855	[1-354]
13856	[1-464]
13858	[1-127],[156-187],[226-451]
13859	[1-667]
13860	[1-353]
13861	[1-419]
13862	[1-506]
13863	[1-480]
13864	[1-315]
13865	[1-516]
13866	[1-491]
13867	[81-479]
13868	[1-468]
13869	[1-382]
13870	[183-268]
13871	[81-534]
13872	[1-278]
13873	[1-386]
13874	[70-379]
13875	[1-502]
13876	[1-239]
13878	[1-248]
13879	[1-480]
13880	[1-481]
13881	[1-433]
13882	[1-242]
13883	[1-387]
13884	[1-85]
13885	[1-403]
13886	[1-343]
13887	[1-211]
13888	[1-513]
13889	[1-447]
13890	[1-488]
13891	[1-574]
13892	[1-289]
13893	[1-503]
13894	[1-100]
13895	[37-138]
13896	[1-388]
13897	[75-543]
13898	[1-521]
13899	[1-133]
13900	[73-127]
13901	[1-103]
13902	[73-131]
13903	[89-176]
13904	[1-74]
13905	[1-259]
13906	[1-159]
13907	[1-276]
13908	[1-181]
13909	[1-69]
13910	[33-186]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
13911	[1-600]
13912	[1-183]
13913	[1-327]
13914	[1-254]
13915	[1-75]
13916	[1-181]
13917	[1-67]
13918	[1-108]
13919	[1-437]
13920	[1-64]
13921	[1-463]
13922	[1-691]
13923	[1-381]
13924	[1-450]
13925	[1-356]
13927	[1-477]
13929	[1-388]
13930	[1-221]
13931	[1-111],[151-189],[272-463]
13932	[1-457]
13933	[1-127]
13934	[1-154]
13935	[1-173]
13936	[31-187]
13937	[1-57]
13938	[1-340]
13939	[1-451]
13940	[1-413]
13941	[1-426]
13942	[1-218]
13943	[1-395]
13944	[1-507]
13945	[1-487]
13946	[1-223]
13947	[1-456]
13948	[1-395]
13949	[1-488]
13950	[1-508]
13951	[1-443]
13952	[1-449]
13953	[1-89]
13954	[1-511]
13955	[1-36],[134-347]
13956	[1-200]
13957	[1-330]
13958	[1-94]
13959	[1-399]
13960	[53-441]
13961	[1-512]
13962	[1-526]
13963	[1-62]
13964	[1-510]
13965	[1-112]
13966	[1-162],[199-288]
13967	[1-422]
13968	[1-512]
13969	[1-485]
13970	[1-178]
13971	[1-435]
13972	[1-542]
13973	[1-491]
13974	[1-55]
13975	[1-180]
13976	[1-77]
13977	[1-266]
13978	[1-327]
13979	[1-387]
13980	[1-339]
13982	[1-417]
13983	[50-481]
13984	[1-241]
13985	[1-447]
13986	[1-145]
13987	[1-100]
13988	[1-499]
13989	[1-150]
13990	[1-459]
13991	[1-501]
13992	[61-132]
13993	[1-376]
13994	[1-480]
13995	[1-485]
13996	[1-343]
13997	[1-466]
13998	[1-415]
13999	[1-479]
14000	[1-467]
14001	[1-368]
14002	[1-325]
14003	[1-115]
14004	[1-132],[395-447]
14005	[1-418]
14006	[1-492]
14007	[1-447]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14008	[1-478]
14009	[1-336]
14011	[1-281]
14012	[1-524]
14013	[1-529]
14014	[1-343]
14015	[1-231]
14016	[1-518]
14017	[1-57]
14018	[1-440]
14019	[1-496]
14020	[1-499]
14021	[1-428]
14022	[1-387]
14023	[1-382]
14024	[1-87]
14025	[1-255]
14026	[1-502]
14027	[1-317]
14028	[1-119]
14029	[53-399]
14030	[1-228]
14031	[1-483]
14032	[1-89]
14033	[1-77]
14034	[1-458]
14035	[1-440]
14036	[1-312]
14037	[1-460]
14038	[1-490]
14039	[1-475]
14040	[1-478]
14041	[1-510]
14042	[232-472]
14043	[1-535]
14044	[1-319]
14045	[1-479]
14046	[1-485]
14048	[1-371]
14049	[1-473]
14050	[1-111]
14051	[1-499]
14053	[1-333]
14054	[1-195],[247-486]
14055	[1-513]
14056	[1-383]
14057	[1-485]
14058	[1-201]
14059	[1-322]
14060	[85-176]
14061	[1-129]
14062	[1-421]
14063	[50-119]
14064	[1-444]
14065	[1-477]
14066	[238-282]
14067	[1-170]
14068	[1-242]
14069	[1-484]
14071	[1-207],[255-487]
14072	[1-243]
14073	[1-289]
14074	[1-439]
14075	[1-468]
14076	[184-298]
14077	[1-258]
14078	[1-314]
14079	[1-509]
14080	[1-489]
14081	[1-497]
14082	[1-204]
14083	[1-392]
14084	[1-267]
14085	[1-473]
14086	[1-113],[232-414]
14087	[1-445]
14088	[239-503]
14089	[1-441]
14090	[1-394]
14091	[1-508]
14092	[1-501]
14093	[180-326]
14094	[1-514]
14095	[1-504]
14096	[1-186]
14097	[1-174]
14098	[1-225]
14099	[81-382]
14100	[287-432]
14102	[1-354]
14103	[1-454]
14104	[1-607]
14105	[1-69]
14106	[36-429]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14107	[1-379]
14108	[1-488]
14109	[1-240]
14110	[1-171]
14112	[1-74]
14113	[1-481]
14114	[1-194]
14115	[1-259]
14116	[1-309]
14117	[1-483]
14118	[1-473]
14119	[1-487]
14120	[1-430]
14121	[1-56]
14122	[1-403]
14123	[1-481]
14124	[1-315]
14125	[1-417]
14126	[1-503]
14127	[1-493]
14128	[1-182]
14129	[1-385]
14130	[1-62]
14131	[1-295]
14132	[1-496]
14133	[1-452]
14134	[60-372]
14135	[1-449]
14136	[1-438]
14137	[1-181]
14138	[1-472]
14139	[1-444]
14140	[1-236]
14141	[59-235]
14142	[1-52]
14143	[1-439]
14144	[1-316]
14145	[1-509]
14146	[1-497]
14147	[1-67]
14148	[155-291]
14149	[1-100]
14151	[1-456]
14152	[1-406]
14153	[1-443]
14154	[1-156],[194-328]
14155	[187-267]
14156	[1-333]
14157	[1-503]
14158	[1-166],[286-328],[380-460]
14159	[1-354]
14160	[1-147]
14161	[1-337]
14162	[1-69]
14163	[37-472]
14164	[1-461]
14165	[1-543]
14166	[1-424]
14167	[1-538]
14168	[1-372]
14169	[1-392]
14170	[75-347]
14171	[1-448]
14172	[1-106]
14173	[1-487]
14174	[1-491]
14175	[1-600]
14176	[1-77]
14177	[1-529]
14178	[48-564]
14179	[1-498]
14180	[1-301]
14181	[1-439]
14182	[1-203]
14183	[1-436]
14184	[1-413]
14185	[102-483]
14186	[1-391]
14187	[1-468]
14188	[1-97]
14189	[1-74]
14190	[1-323]
14191	[1-453]
14192	[1-489]
14193	[237-392]
14194	[1-497]
14195	[1-180]
14196	[1-452]
14197	[1-474]
14198	[116-184],[252-353]
14199	[1-444]
14200	[77-390]
14201	[1-317]
14202	[1-101]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14203	[1-275]
14204	[1-200]
14205	[1-484]
14206	[1-434]
14207	[1-300]
14208	[1-367]
14209	[1-465]
14210	[110-357]
14211	[1-341]
14212	[1-106]
14213	[1-466]
14214	[1-327]
14215	[1-458]
14216	[1-494]
14217	[1-466]
14218	[1-462]
14219	[1-503]
14220	[1-460]
14221	[1-446]
14222	[1-370]
14223	[1-67],[164-456]
14224	[1-333],[373-475]
14225	[1-312]
14226	[1-457]
14227	[1-457]
14228	[1-191],[327-354]
14229	[1-455]
14231	[1-113]
14232	[1-334]
14233	[1-413]
14234	[1-338]
14235	[1-458]
14236	[1-407]
14237	[160-367]
14238	[1-477]
14239	[1-213]
14240	[1-216],[256-487]
14241	[1-464]
14242	[1-454]
14243	[1-474]
14244	[1-470]
14245	[1-367]
14246	[1-81]
14247	[1-262]
14248	[1-227]
14249	[1-410]
14250	[1-27],[221-502]
14251	[1-272]
14252	[1-462]
14253	[1-431]
14254	[1-100]
14255	[1-391]
14256	[1-288]
14257	[1-171]
14258	[1-364]
14259	[1-436]
14260	[1-425]
14261	[1-359]
14262	[1-269]
14263	[1-138]
14264	[1-491]
14265	[1-345]
14266	[1-394]
14267	[1-467]
14268	[1-295]
14269	[1-476]
14270	[1-440]
14271	[1-467]
14272	[84-263]
14273	[1-62]
14274	[1-278]
14275	[1-396]
14276	[1-164]
14277	[1-479]
14278	[1-523]
14279	[218-458]
14280	[1-316]
14281	[1-500]
14282	[1-398]
14283	[1-267]
14284	[1-409]
14285	[1-75]
14286	[1-157]
14287	[72-165]
14288	[1-445]
14289	[1-434]
14290	[1-391]
14291	[1-339]
14292	[1-418]
14293	[1-305]
14294	[1-491]
14295	[1-433]
14296	[1-356]
14297	[1-445]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
14298	[69-113]	14347	[1-383]
14299	[1-379]	14348	[1-313]
14300	[1-454]	14349	[1-418]
14301	[1-363]	14350	[1-428]
14302	[1-456]	14351	[1-325]
14303	[1-431]	14352	[1-182]
14304	[1-453]	14353	[1-162]
14305	[1-425]	14354	[1-514]
14306	[1-436]	14355	[1-96]
14307	[1-405]	14356	[1-352]
14308	[1-260]	14357	[1-498]
14309	[1-477]	14358	[1-198]
14310	[1-496]	14359	[1-550]
14311	[1-378]	14360	[1-56]
14312	[116-409]	14361	[1-334]
14313	[1-442]	14362	[1-453]
14314	[1-459]	14363	[1-230],[260-347]
14315	[1-66]	14364	[1-495]
14316	[1-371]	14365	[68-161]
14317	[1-458]	14366	[62-478]
14318	[1-429]	14367	[1-437]
14319	[1-299]	14368	[1-310]
14320	[1-452]	14369	[1-454],[491-566]
14322	[1-156]	14370	[1-297]
14323	[1-392]	14371	[1-430]
14324	[1-277]	14372	[1-462]
14325	[1-420]	14373	[1-512]
14326	[1-461]	14374	[1-73]
14327	[1-452]	14375	[1-81]
14328	[1-423]	14376	[1-449]
14329	[1-218]	14377	[1-193]
14331	[1-277]	14378	[1-307]
14332	[1-402]	14379	[1-477]
14333	[1-82]	14380	[1-126],[173-231]
14334	[1-420]	14381	[1-269]
14335	[1-410]	14383	[1-483]
14336	[1-426]	14384	[1-412]
14337	[1-434]	14385	[1-239]
14338	[310-406]	14386	[1-46],[99-372]
14339	[1-448]	14387	[1-451]
14340	[74-466]	14388	[1-467]
14341	[166-314]	14389	[1-443]
14342	[1-481]	14390	[1-145]
14343	[1-416]	14391	[1-115]
14344	[1-464]	14392	[1-451]
14345	[1-274]	14393	[1-470]
14346	[1-289]	14394	[1-474]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14395	[1-442]
14396	[1-372]
14397	[1-122]
14398	[1-457]
14399	[1-457]
14400	[1-296]
14401	[1-170]
14402	[1-379]
14403	[1-477]
14404	[239-419]
14405	[1-481]
14406	[1-477]
14407	[1-474]
14408	[104-356]
14409	[1-478]
14410	[1-460]
14411	[1-220]
14412	[1-320]
14413	[1-441]
14414	[1-476]
14415	[1-301]
14416	[1-169]
14417	[1-439]
14418	[1-343]
14419	[1-404]
14420	[1-171],[200-463]
14421	[1-129],[180-402]
14422	[1-497]
14423	[1-447]
14424	[1-455]
14425	[1-173]
14426	[1-373]
14427	[1-415]
14428	[1-213]
14429	[1-442]
14430	[1-465]
14431	[1-256]
14432	[1-295]
14433	[1-398]
14434	[1-477]
14435	[1-343]
14436	[1-119]
14437	[1-200]
14438	[1-116]
14439	[1-470]
14440	[1-280]
14441	[1-435]

Seq Id No.	Positions of preferred fragments
14442	[1-231],[295-336]
14443	[1-482]
14444	[1-469]
14445	[1-419]
14446	[1-326]
14447	[1-435]
14448	[1-310]
14449	[1-458]
14450	[1-432]
14451	[72-443]
14452	[51-94],[139-415]
14453	[1-433]
14454	[1-447]
14455	[1-461]
14456	[59-322]
14457	[1-473]
14458	[1-374]
14459	[1-457]
14460	[1-128],[225-292]
14462	[1-337]
14463	[1-463]
14464	[1-449]
14465	[1-96]
14466	[1-444]
14467	[1-461]
14468	[1-448]
14469	[1-233]
14470	[1-28],[324-466]
14471	[1-448]
14472	[1-375]
14473	[1-369]
14474	[1-451]
14475	[1-458]
14476	[1-197]
14477	[1-441]
14478	[1-61]
14479	[1-151]
14480	[1-422]
14481	[1-329]
14482	[1-93]
14483	[1-118]
14484	[1-401]
14485	[1-344]
14486	[1-143]
14488	[1-441]
14489	[1-334]
14490	[1-443]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14491	[1-420]
14492	[1-103]
14493	[141-324]
14494	[1-408]
14495	[1-417]
14496	[1-446]
14497	[1-306]
14498	[1-433]
14499	[1-453]
14500	[1-171]
14501	[1-453]
14502	[1-374]
14503	[1-298]
14504	[1-475]
14505	[1-416]
14506	[1-276],[307-432]
14507	[1-350]
14508	[1-342]
14509	[1-369]
14510	[1-450]
14511	[1-89]
14512	[1-322]
14513	[1-249]
14514	[1-418]
14515	[1-373]
14516	[164-402]
14517	[1-440]
14519	[1-461]
14520	[1-448]
14521	[1-437]
14522	[1-333]
14523	[1-384]
14524	[1-240]
14525	[1-386],[427-466]
14526	[1-140]
14527	[1-129]
14528	[1-360]
14529	[1-504]
14530	[1-457]
14531	[1-424]
14532	[1-61]
14533	[1-62]
14534	[1-392]
14535	[1-55]
14536	[1-72]
14537	[1-321]
14538	[1-425]

Seq Id No.	Positions of preferred fragments
14539	[424-453]
14540	[1-498]
14541	[1-480]
14542	[1-507]
14543	[1-226]
14544	[1-541]
14545	[1-523]
14546	[178-317],[363-583]
14547	[1-487]
14548	[1-367]
14549	[1-505]
14550	[1-166]
14551	[1-487]
14552	[1-451]
14553	[1-359]
14554	[1-447]
14555	[1-498]
14556	[1-56]
14558	[1-464]
14559	[1-471]
14560	[1-87]
14561	[1-229]
14562	[1-382]
14563	[1-424]
14565	[1-464]
14566	[1-301]
14567	[1-187]
14568	[1-75]
14569	[1-347]
14570	[1-324]
14571	[1-84]
14572	[1-483]
14573	[1-477]
14574	[1-341]
14575	[1-287],[322-424]
14576	[1-56],[122-308]
14577	[1-84]
14578	[1-408]
14579	[1-469]
14580	[1-413]
14581	[1-488]
14582	[1-322]
14583	[1-399]
14584	[1-482]
14585	[1-325]
14586	[1-399]
14587	[1-332]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
14588	[1-280]	14637	[1-288]
14589	[1-284]	14638	[1-222]
14590	[1-357]	14639	[1-251]
14591	[1-364]	14640	[1-498]
14592	[1-109]	14641	[1-397]
14593	[1-478]	14642	[1-424]
14594	[1-507]	14644	[1-217]
14595	[1-238]	14645	[1-501]
14596	[1-433]	14646	[1-470]
14597	[1-492]	14647	[1-293]
14598	[1-371]	14648	[1-298]
14599	[1-167]	14649	[1-322]
14600	[50-483]	14650	[1-486]
14601	[1-407]	14651	[1-478]
14603	[1-510]	14652	[1-447]
14604	[67-109],[153-598]	14653	[1-438]
14605	[1-440]	14654	[1-388]
14606	[1-416]	14655	[1-79]
14608	[1-502]	14656	[1-482]
14609	[1-361]	14657	[1-508]
14610	[1-335]	14658	[1-329]
14611	[1-206]	14659	[1-398]
14612	[1-50]	14660	[1-116]
14613	[1-410]	14661	[1-274]
14614	[1-423]	14662	[183-497]
14615	[1-163]	14663	[1-484]
14616	[1-495]	14664	[1-461]
14617	[1-430]	14665	[1-481]
14618	[1-352]	14666	[1-126]
14619	[1-83]	14667	[1-323]
14620	[1-321]	14668	[1-90]
14621	[1-491]	14669	[1-425]
14622	[40-492]	14670	[1-448]
14623	[1-483]	14671	[1-172]
14624	[61-347],[405-472]	14672	[1-308]
14625	[1-484]	14673	[1-236]
14626	[1-359]	14674	[100-158],[189-464]
14627	[1-52]	14676	[1-275]
14628	[1-511]	14677	[1-111]
14629	[1-233]	14678	[1-472]
14630	[1-129]	14679	[1-168]
14631	[1-82]	14680	[1-61]
14632	[1-475]	14681	[1-61]
14633	[1-520]	14682	[1-59]
14634	[1-316]	14683	[1-419]
14635	[1-308]	14684	[48-448]
14636	[1-465]	14685	[1-320]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14687	[1-314]
14688	[1-97]
14689	[1-92]
14690	[1-340]
14691	[1-157]
14692	[109-444]
14693	[1-77]
14694	[1-75]
14695	[1-406]
14697	[1-368]
14698	[37-73]
14699	[1-365]
14700	[1-288]
14701	[1-124]
14702	[1-357]
14703	[1-60]
14704	[1-195]
14705	[1-74]
14706	[1-293]
14707	[252-470]
14708	[1-345]
14709	[1-509]
14710	[1-449]
14711	[1-339]
14712	[1-59]
14713	[1-216]
14714	[1-217]
14715	[1-50]
14716	[1-95]
14717	[1-80]
14718	[1-406]
14719	[1-274]
14720	[1-492]
14721	[1-433]
14722	[1-135]
14723	[1-420]
14724	[1-94]
14725	[1-483]
14726	[1-465]
14728	[1-217]
14729	[1-73]
14730	[130-407]
14731	[43-184]
14732	[1-433]
14733	[1-304]
14734	[1-437]
14735	[1-461]
14736	[1-474]
14737	[1-148]
14738	[1-411]
14739	[1-517]
14740	[1-308]
14741	[1-85]
14742	[1-60]
14743	[1-65]
14744	[1-404]
14745	[1-498]
14746	[1-463]
14747	[1-413]
14748	[109-195]
14749	[1-89]
14750	[1-70]
14751	[1-83]
14752	[1-284]
14753	[1-67]
14754	[1-61]
14755	[1-195]
14756	[1-63]
14757	[1-90]
14758	[1-209]
14759	[1-527]
14760	[1-62]
14761	[1-189]
14762	[1-365]
14763	[1-317]
14764	[1-63]
14765	[1-495]
14766	[1-508]
14767	[1-379]
14768	[1-393]
14769	[1-474]
14770	[1-263]
14771	[1-528]
14772	[126-510]
14773	[1-514]
14774	[1-298]
14775	[1-281]
14776	[1-457]
14777	[1-162]
14778	[1-445]
14779	[1-268]
14781	[61-269]
14782	[1-162]
14783	[1-83]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14784	[1-417]
14785	[50-240]
14786	[1-83]
14787	[1-75]
14788	[1-442]
14790	[1-264]
14791	[1-301]
14792	[1-72]
14793	[62-348],[380-432]
14795	[1-356]
14796	[1-278]
14797	[1-328]
14798	[61-259]
14799	[1-61]
14800	[1-55]
14801	[1-474]
14802	[39-427]
14803	[1-54]
14804	[1-102]
14805	[1-81]
14806	[1-110]
14807	[1-430]
14808	[1-430]
14809	[1-292]
14811	[1-441]
14812	[1-77]
14813	[1-69]
14814	[1-456]
14815	[1-72]
14816	[1-340]
14817	[1-508]
14818	[1-195]
14819	[1-66]
14820	[1-54]
14821	[1-436]
14822	[1-343]
14823	[1-317]
14824	[1-78]
14825	[1-62]
14826	[1-386]
14827	[1-58]
14829	[1-478]
14830	[1-103]
14831	[1-76]
14832	[39-464]
14833	[1-405]
14834	[1-61]
14835	[1-86]
14836	[1-494]
14837	[1-458]
14838	[1-69]
14839	[1-344]
14840	[1-217]
14841	[1-328]
14842	[1-72]
14843	[1-430]
14844	[1-65],[199-270]
14845	[1-253]
14846	[1-66]
14847	[1-109]
14848	[1-187],[268-387]
14849	[1-87]
14850	[1-480]
14851	[1-196]
14852	[1-423]
14853	[1-65]
14854	[1-480]
14855	[1-138]
14856	[1-309]
14857	[1-323]
14858	[1-64]
14859	[1-85]
14860	[1-71]
14861	[1-470]
14862	[1-103]
14863	[1-166]
14864	[39-470]
14865	[1-495]
14866	[1-217]
14867	[38-377]
14868	[1-473]
14869	[1-69]
14870	[1-276]
14871	[1-93]
14872	[1-330]
14873	[1-417]
14874	[1-197]
14875	[1-112]
14876	[1-154]
14877	[1-435]
14879	[1-323]
14880	[1-302]
14881	[1-221]
14882	[1-269]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14883	[1-432]
14884	[1-60]
14885	[1-462]
14886	[1-114]
14887	[1-481]
14888	[1-389]
14889	[1-194]
14890	[1-240]
14891	[1-301]
14892	[1-75]
14893	[1-357]
14894	[1-386]
14895	[1-481]
14896	[1-181]
14897	[1-485]
14898	[1-330]
14899	[99-330]
14900	[1-285]
14901	[1-78]
14903	[1-435]
14904	[101-279]
14905	[1-71]
14906	[1-297]
14907	[1-370]
14908	[1-413]
14909	[1-386]
14910	[1-119]
14911	[1-302]
14912	[1-152]
14913	[1-52]
14914	[1-50]
14915	[1-76]
14916	[1-78]
14917	[1-482]
14918	[1-293]
14919	[1-496]
14920	[1-59]
14921	[1-474]
14922	[1-195]
14923	[1-113]
14924	[1-328]
14925	[1-91]
14926	[1-84]
14927	[1-112]
14928	[1-122]
14929	[1-216]
14930	[1-477]

Seq Id No.	Positions of preferred fragments
14931	[1-91]
14932	[1-234]
14933	[1-434]
14934	[1-313]
14935	[1-449]
14936	[1-62]
14937	[1-144]
14938	[1-216]
14940	[1-157]
14941	[1-431]
14942	[1-77],[174-255]
14943	[45-328]
14944	[1-91]
14945	[1-62]
14946	[1-95]
14947	[1-94]
14948	[1-61]
14949	[1-85]
14950	[1-195]
14951	[1-224]
14952	[1-486]
14953	[1-94]
14954	[1-249]
14955	[37-491]
14956	[1-501]
14957	[1-216]
14958	[1-83]
14959	[1-83]
14960	[1-88]
14961	[1-427]
14962	[1-89]
14963	[1-73]
14964	[1-30]
14965	[1-458]
14966	[1-63]
14967	[1-118]
14968	[1-58]
14969	[167-223]
14970	[1-105]
14971	[1-235]
14972	[1-469]
14973	[1-180]
14974	[1-89]
14975	[50-146]
14976	[1-178]
14977	[91-403]
14978	[32-185]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
14979	[1-71],[132-214]
14980	[1-413]
14981	[1-448]
14982	[1-380]
14983	[1-217]
14984	[1-305]
14985	[1-507]
14986	[1-470]
14987	[1-484]
14988	[1-363]
14989	[1-53]
14990	[1-120]
14991	[1-433]
14992	[1-125]
14993	[1-113]
14994	[1-54]
14995	[1-487]
14996	[1-92]
14997	[1-447]
14998	[1-387]
14999	[1-166]
15000	[1-156]
15001	[1-155]
15002	[1-114]
15003	[1-169]
15004	[1-67]
15005	[115-245]
15006	[1-217]
15008	[1-419]
15009	[1-192]
15010	[1-446]
15011	[1-365]
15012	[39-442]
15013	[1-580]
15014	[37-481]
15015	[1-408]
15016	[1-434]
15017	[1-162]
15018	[1-83],[113-228]
15019	[1-167]
15020	[1-500]
15021	[1-195]
15022	[1-419]
15023	[1-444]
15024	[1-81]
15026	[1-422]
15027	[1-93]
15028	[1-91]
15029	[1-216]
15030	[1-381]
15031	[1-82]
15032	[1-432]
15033	[1-302]
15034	[1-422]
15035	[1-492]
15036	[1-284]
15037	[1-154]
15038	[1-454]
15039	[1-338]
15040	[1-431]
15041	[1-90]
15042	[1-503]
15043	[1-301]
15044	[1-248]
15045	[1-329]
15046	[1-174]
15047	[1-134]
15048	[1-431]
15049	[1-84]
15050	[1-465]
15051	[1-284]
15052	[37-474]
15053	[1-548]
15054	[1-349]
15055	[1-310]
15056	[1-113]
15057	[1-74]
15058	[1-464]
15059	[1-468]
15060	[1-91]
15061	[1-162]
15062	[1-399]
15063	[1-126]
15064	[1-72]
15065	[130-477]
15066	[1-70]
15067	[1-445]
15068	[1-281]
15069	[1-436]
15071	[1-478]
15072	[1-425]
15073	[1-75]
15074	[1-406]
15075	[1-177]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15076	[1-418]
15077	[1-349]
15078	[1-75]
15079	[1-177]
15081	[1-409]
15082	[1-189]
15083	[1-50],[81-321]
15084	[1-77]
15085	[1-436]
15086	[1-255]
15087	[1-132]
15088	[1-373]
15089	[1-162]
15090	[1-79]
15091	[1-98]
15092	[1-78]
15093	[1-342]
15094	[1-64],[290-445]
15095	[1-351]
15096	[1-371]
15097	[1-278],[338-506]
15098	[1-520]
15099	[1-450]
15100	[1-440]
15101	[1-573]
15102	[1-290]
15103	[1-489]
15104	[1-368]
15105	[1-454]
15106	[1-405]
15107	[1-406]
15108	[1-337]
15109	[1-568]
15110	[122-314]
15111	[48-372]
15112	[1-255],[322-391]
15113	[1-406]
15114	[1-539]
15115	[1-339]
15116	[1-558]
15117	[1-529]
15118	[1-407]
15119	[1-495]
15120	[1-478]
15121	[1-483]
15122	[1-525]
15123	[1-478]
15124	[1-309],[350-375]
15127	[124-165]
15129	[1-235]
15130	[1-421]
15131	[1-617]
15132	[1-540]
15133	[1-232]
15134	[1-351]
15135	[1-440]
15136	[1-493]
15137	[1-89],[122-348]
15138	[1-399]
15139	[1-225]
15140	[1-535]
15141	[1-375]
15142	[226-289]
15143	[1-479]
15144	[1-447]
15145	[1-457]
15146	[1-462]
15147	[1-311]
15148	[1-486]
15149	[1-437]
15150	[1-570]
15151	[1-464]
15152	[1-107],[166-201]
15154	[1-484]
15155	[1-896]
15156	[1-475]
15158	[1-172],[204-315]
15159	[85-357]
15160	[83-495]
15161	[1-203]
15162	[1-420]
15163	[227-436]
15164	[1-533]
15166	[1-484]
15167	[79-120],[266-291]
15168	[1-294]
15169	[1-107]
15170	[1-478]
15171	[1-50],[278-416]
15172	[1-437]
15173	[1-475]
15174	[1-508]
15175	[1-127]
15176	[1-445]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15177	[1-64],[129-478]
15178	[1-312]
15179	[1-473]
15180	[1-101]
15181	[1-591]
15182	[1-250]
15183	[1-377]
15184	[1-454]
15185	[1-376]
15186	[1-436]
15187	[1-382]
15188	[1-494]
15189	[1-521]
15190	[1-503]
15191	[1-433]
15192	[1-567]
15193	[35-92]
15194	[1-264]
15195	[1-451]
15196	[1-368]
15197	[1-302]
15198	[1-459]
15199	[1-431]
15200	[1-460]
15201	[1-464]
15202	[1-496]
15203	[1-397]
15204	[1-394]
15205	[1-436]
15206	[1-435]
15207	[138-278],[315-386]
15208	[1-437]
15209	[1-435]
15210	[1-435]
15211	[1-474]
15212	[1-509]
15213	[1-490]
15214	[1-472]
15215	[1-461]
15216	[1-406]
15217	[1-469]
15218	[1-460]
15219	[1-519]
15220	[1-337],[487-544]
15221	[1-311]
15223	[1-544]
15224	[1-494]
15225	[1-484]
15226	[1-86]
15227	[1-417]
15228	[1-523]
15229	[1-511]
15230	[1-348]
15231	[1-517]
15232	[1-300]
15233	[1-398]
15234	[1-389]
15235	[1-285]
15236	[1-74],[202-311]
15237	[1-514]
15238	[1-442]
15239	[72-394]
15240	[1-475]
15241	[1-435]
15242	[1-394]
15243	[191-276]
15244	[1-601]
15245	[1-506]
15246	[1-521]
15247	[1-468]
15248	[1-345]
15249	[1-293]
15251	[1-577]
15252	[1-425]
15253	[1-185]
15254	[1-434]
15255	[1-159]
15256	[1-501]
15257	[1-493]
15258	[1-454]
15259	[1-466]
15260	[1-199]
15261	[1-402]
15262	[1-448]
15263	[1-492]
15264	[1-381]
15266	[187-332],[373-437]
15267	[1-277]
15268	[141-201]
15269	[141-201]
15270	[1-180]
15271	[1-163]
15272	[52-226]
15273	[1-512]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15274	[1-187]
15275	[47-155]
15276	[1-106]
15278	[1-157]
15279	[1-533]
15280	[1-459]
15281	[1-460]
15282	[1-506]
15283	[1-641]
15284	[1-295]
15285	[1-445]
15286	[1-292]
15287	[1-378]
15288	[1-503]
15289	[1-377]
15290	[1-533]
15291	[40-404]
15292	[1-230]
15293	[1-534]
15294	[1-142]
15295	[1-73]
15296	[40-412]
15297	[1-254],[390-564]
15298	[1-172]
15299	[1-491]
15300	[1-416]
15301	[1-412]
15302	[1-53]
15303	[1-784]
15304	[1-488]
15305	[1-445]
15306	[1-491]
15307	[1-480]
15308	[1-490]
15309	[1-606]
15310	[1-511]
15311	[1-497]
15313	[137-210]
15314	[113-195]
15315	[1-490]
15316	[1-168]
15317	[113-194]
15318	[114-166]
15319	[113-173]
15320	[113-180]
15321	[114-215]
15322	[1-178]
15323	[137-179]
15324	[1-450]
15325	[1-573]
15326	[1-381]
15327	[1-490]
15328	[1-267],[414-504]
15329	[1-315]
15330	[1-407]
15331	[1-167]
15332	[1-443]
15333	[91-454]
15334	[1-457]
15335	[1-278]
15336	[1-94],[140-361]
15337	[1-186]
15338	[1-489]
15339	[1-200]
15340	[1-522]
15341	[1-197]
15342	[1-350]
15343	[1-121]
15344	[1-428]
15345	[1-482]
15346	[1-499]
15347	[1-447]
15348	[1-395]
15349	[93-263]
15350	[1-392]
15351	[1-517]
15352	[1-390]
15353	[1-95],[135-258]
15354	[1-485]
15355	[1-444]
15356	[1-500]
15357	[1-426]
15358	[1-415]
15359	[1-413]
15360	[1-416]
15361	[1-412]
15362	[1-416]
15363	[1-433]
15364	[1-414]
15365	[1-454]
15366	[1-425]
15367	[1-413]
15368	[1-442]
15369	[1-549]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15370	[1-487]
15371	[1-501]
15372	[1-495]
15373	[1-136]
15374	[1-420]
15375	[1-526]
15376	[1-496]
15377	[1-569]
15378	[52-189]
15379	[1-125]
15380	[1-506]
15381	[1-487]
15382	[1-413]
15383	[1-39],[128-491]
15385	[1-71],[117-465]
15386	[144-172]
15387	[1-274]
15388	[32-543]
15389	[33-313]
15390	[1-417]
15391	[1-442]
15392	[1-128]
15393	[1-76],[122-224]
15394	[1-444]
15395	[1-482]
15396	[1-472]
15397	[1-490]
15398	[1-431]
15399	[1-486]
15400	[1-575]
15401	[1-490]
15402	[1-483]
15403	[1-486]
15404	[1-275]
15405	[1-216],[245-313]
15406	[1-48]
15407	[1-295]
15408	[1-221]
15409	[1-166]
15410	[1-506]
15411	[1-57]
15412	[1-153],[232-348]
15413	[1-144]
15414	[1-445]
15415	[1-362]
15416	[1-221]
15417	[1-201],[333-471]

Seq Id No.	Positions of preferred fragments
15418	[1-472]
15419	[1-83],[134-414],[445-504],[544-593]
15420	[1-116],[162-280]
15421	[1-515]
15422	[1-416]
15423	[1-479]
15424	[1-250],[295-462]
15425	[1-490]
15426	[1-801]
15427	[1-216]
15428	[1-495]
15429	[1-291]
15430	[1-508]
15431	[1-88],[130-361]
15432	[1-314]
15433	[1-488]
15434	[1-241]
15435	[1-410]
15436	[1-179]
15439	[78-164]
15440	[129-163]
15442	[1-384]
15443	[1-200]
15444	[1-498]
15445	[1-568]
15446	[1-477]
15447	[1-148]
15448	[1-504]
15449	[1-402]
15450	[1-483]
15451	[367-511]
15452	[1-377]
15453	[1-114]
15454	[1-411]
15455	[1-153],[189-540]
15456	[1-390]
15457	[1-457]
15458	[1-313]
15459	[1-492]
15460	[1-410]
15461	[1-378]
15462	[1-468]
15463	[1-569]
15464	[1-410]
15465	[1-208]
15466	[1-114],[231-291]
15467	[1-392]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15468	[1-393]
15469	[1-406]
15470	[1-208]
15471	[1-376]
15472	[1-446]
15473	[1-461]
15474	[1-466]
15475	[1-447]
15476	[1-478]
15477	[378-403]
15478	[1-453]
15480	[1-297]
15481	[1-340]
15482	[1-476]
15483	[1-506]
15484	[1-272],[331-500]
15485	[1-470]
15486	[1-512]
15487	[1-444]
15488	[1-355]
15489	[1-352]
15490	[1-607]
15491	[1-553]
15492	[1-465]
15493	[1-497]
15494	[1-488]
15495	[1-485]
15496	[1-352]
15497	[1-493]
15498	[1-489]
15499	[1-477]
15500	[1-436]
15501	[1-432]
15502	[1-367]
15503	[1-516]
15504	[161-208]
15506	[1-321],[357-401]
15507	[1-417]
15508	[1-383]
15509	[1-360]
15510	[1-261]
15511	[1-400]
15513	[1-168],[377-444]
15514	[1-44]
15515	[1-479]
15516	[1-343]
15517	[1-180]
15519	[1-457]
15520	[1-202],[320-463]
15521	[1-442]
15522	[1-415]
15523	[30-497]
15524	[1-510]
15525	[1-542]
15526	[1-287]
15527	[1-406]
15528	[48-352]
15529	[1-447]
15530	[1-454]
15531	[112-290]
15532	[1-507]
15533	[1-272]
15534	[86-463]
15535	[48-352]
15536	[1-585]
15537	[1-515]
15538	[1-50]
15539	[1-424]
15540	[1-499]
15541	[1-72]
15542	[1-188]
15543	[1-184]
15544	[1-499]
15545	[1-476]
15546	[1-358]
15547	[1-501]
15548	[1-490]
15549	[1-469]
15550	[1-508]
15551	[1-231]
15552	[1-456]
15553	[1-162]
15554	[1-242]
15555	[1-406]
15556	[1-418]
15557	[1-583]
15558	[149-276]
15559	[1-109]
15560	[1-501]
15561	[1-420]
15562	[1-387]
15563	[1-476]
15564	[1-408]
15565	[1-307]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15566	[1-96]
15567	[1-476]
15568	[121-217]
15569	[1-407]
15570	[1-524]
15571	[49-420]
15572	[1-577]
15573	[1-171],[439-580]
15574	[1-484]
15575	[1-433]
15576	[1-98],[183-424]
15577	[1-504]
15578	[1-821]
15579	[1-65],[132-446]
15580	[1-488]
15581	[1-389]
15582	[1-126],[219-243],[347-389]
15583	[1-519]
15584	[1-331]
15585	[57-252],[315-399]
15586	[1-561]
15587	[1-195]
15588	[1-311]
15589	[1-405]
15590	[1-513]
15591	[1-569]
15592	[1-368]
15593	[82-393]
15594	[148-493]
15595	[1-436]
15596	[1-443]
15597	[1-504]
15598	[1-410]
15599	[1-362]
15600	[180-446]
15601	[1-31],[175-246]
15602	[1-31],[175-246],[343-405]
15603	[1-544]
15604	[1-489]
15605	[1-214]
15606	[1-487]
15607	[1-406]
15608	[1-500]
15609	[1-251]
15610	[1-601]
15611	[39-172],[276-317]
15612	[1-481]

Seq Id No.	Positions of preferred fragments
15613	[1-220]
15614	[1-133],[235-485]
15615	[1-450]
15616	[1-124]
15617	[74-372]
15618	[1-456]
15619	[1-597]
15620	[1-162]
15621	[391-462]
15622	[1-348],[437-566]
15623	[1-504]
15624	[1-336]
15625	[1-47]
15626	[205-348]
15627	[1-576]
15628	[1-476]
15629	[1-381]
15630	[37-324]
15631	[1-503]
15632	[1-63]
15633	[1-396]
15634	[1-403]
15635	[1-507]
15636	[1-508]
15637	[1-372]
15638	[1-419]
15639	[1-505]
15640	[1-224]
15641	[1-510]
15642	[298-324]
15643	[1-418]
15644	[37-78],[177-422]
15645	[1-322]
15646	[1-316]
15647	[1-525]
15648	[1-240]
15649	[1-241],[283-466]
15650	[1-526]
15651	[1-425]
15652	[60-373]
15654	[60-371]
15655	[60-370]
15656	[60-370]
15657	[1-467]
15658	[1-130],[176-202],[320-397]
15659	[1-221]
15660	[1-215]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15661	[1-308]
15663	[1-207]
15664	[178-210]
15665	[1-482]
15666	[1-26]
15667	[1-324]
15668	[1-374]
15669	[1-234]
15670	[1-464]
15671	[1-227]
15672	[1-300]
15673	[1-560]
15674	[1-493]
15675	[1-505]
15676	[155-434]
15677	[1-163]
15678	[1-402]
15679	[1-470]
15680	[1-532]
15681	[1-471]
15682	[1-122]
15683	[1-239]
15684	[1-475]
15685	[1-428],[459-532]
15686	[1-419]
15687	[1-428]
15688	[1-438]
15689	[204-349]
15690	[114-438]
15691	[1-497]
15692	[1-386]
15693	[1-587]
15694	[1-201]
15695	[1-296]
15696	[1-525]
15697	[1-466]
15698	[1-284]
15699	[1-464]
15700	[1-372]
15701	[1-118]
15702	[1-502]
15703	[1-482]
15704	[1-503]
15705	[1-503]
15706	[1-401]
15707	[1-211]
15708	[1-62]
15710	[1-328]
15711	[1-197],[315-458]
15713	[1-150]
15714	[1-489]
15715	[1-456]
15716	[1-222]
15717	[1-409]
15718	[439-551]
15719	[1-393]
15720	[100-178]
15721	[1-420]
15722	[103-410]
15723	[1-26],[181-331]
15724	[1-36],[191-341]
15725	[1-178]
15726	[1-340]
15727	[1-448]
15728	[1-184]
15729	[154-184],[225-471]
15730	[1-408]
15731	[1-42],[106-423]
15732	[1-246]
15733	[1-179]
15734	[1-476]
15735	[1-397]
15736	[1-505]
15737	[1-271]
15738	[1-92],[149-263],[433-494]
15739	[1-423]
15741	[1-259]
15742	[1-323]
15743	[1-370]
15744	[1-380]
15745	[1-142],[434-503]
15746	[1-459]
15747	[70-134]
15748	[1-623]
15749	[107-257]
15754	[1-101]
15755	[1-86]
15760	[107-273]
15768	[1-98]
15770	[1-99]
15773	[1-101]
15791	[1-483]
15792	[1-99]
15793	[1-82]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
15794	[1-97]
15797	[1-97]
15801	[1-101]
15802	[1-541]
15804	[1-97]
15806	[1-102]
15816	[1-100]
15823	[1-199]
15834	[1-80]
15837	[1-97]
15843	[1-98]
15844	[1-448]
15846	[1-67]
15853	[1-100]
15855	[1-151],[319-451]
15856	[1-97]
15880	[1-97]
15881	[1-97]
15885	[71-127]
15886	[1-98]
15889	[1-104]
15896	[1-98]
15902	[1-102]
15904	[1-86]
15908	[1-101]
15909	[1-98]
15915	[1-83]
15917	[1-83]
15919	[1-75]
15921	[1-53]
15930	[1-69]
15931	[1-97]
15932	[1-84]
15933	[1-97]
15936	[1-97]
15940	[40-103]
15945	[1-101]
15956	[1-386]
15967	[1-100]
15968	[81-108]
15975	[1-60]
15977	[1-443]
15982	[1-97]
15986	[1-98]
15990	[1-439]
15991	[1-390]
15992	[1-151]
15993	[1-203]
15994	[1-197]
15995	[1-151]
15996	[1-446]
15997	[1-151]
15998	[1-150]
15999	[1-151]
16000	[1-153]
16001	[1-151]
16002	[1-310]
16003	[1-424]
16004	[1-498]
16005	[1-369]
16006	[1-125]
16007	[1-272]
16008	[1-359]
16009	[1-292]
16010	[1-362]
16011	[1-281]
16012	[1-329]
16013	[1-336]
16014	[1-306]
16015	[1-339]
16016	[1-282]
16017	[1-302]
16018	[1-327]
16019	[1-359]
16020	[1-305]
16021	[1-296]
16022	[1-297]
16023	[1-279]
16024	[1-326]
16025	[1-458]
16026	[1-347]
16027	[1-324]
16028	[1-315]
16029	[1-282]
16030	[1-307]
16031	[1-332]
16032	[1-333]
16033	[1-297]
16034	[1-281]
16035	[1-306]
16036	[1-526]
16037	[1-279]
16038	[1-335]
16039	[1-276]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16040	[1-318]	16089	[1-529]
16041	[1-338]	16090	[1-165]
16042	[1-365]	16091	[1-302]
16043	[1-280]	16092	[1-270]
16044	[1-334]	16093	[1-200],[318-378]
16045	[1-333]	16094	[1-572]
16046	[1-280]	16095	[148-188],[229-280]
16047	[1-175]	16096	[115-164],[247-288]
16048	[1-371]	16097	[1-51]
16049	[1-296]	16098	[1-556]
16050	[1-332]	16099	[1-65],[246-304]
16051	[1-336]	16100	[246-331]
16052	[1-329]	16101	[1-93]
16053	[1-332]	16102	[1-321]
16054	[1-281]	16103	[1-470]
16055	[1-319]	16104	[1-569]
16056	[1-320]	16105	[1-351]
16057	[1-306]	16106	[1-517]
16058	[1-357]	16107	[41-83],[295-466]
16059	[1-281]	16108	[1-272]
16060	[1-281]	16109	[1-255]
16061	[1-335]	16110	[1-233]
16062	[1-110]	16111	[1-271]
16063	[96-167]	16112	[122-440]
16064	[99-450]	16115	[82-146]
16065	[1-227]	16116	[1-485]
16066	[1-405]	16117	[1-528]
16067	[1-516]	16118	[1-530]
16068	[1-234]	16119	[1-740]
16069	[1-404]	16120	[1-327]
16070	[1-399]	16121	[1-395]
16071	[1-26],[194-482]	16122	[1-281]
16073	[1-75],[131-500]	16123	[1-45],[111-272]
16074	[125-276]	16124	[1-512]
16075	[1-470]	16125	[1-313]
16076	[1-219],[303-328]	16126	[1-418]
16077	[1-191]	16127	[1-153],[187-293]
16078	[1-357]	16128	[1-153],[187-326]
16079	[1-430]	16129	[1-153],[187-319]
16080	[1-265]	16130	[1-153],[187-301]
16081	[1-415]	16131	[1-153],[187-323]
16082	[1-415]	16132	[1-153],[187-306]
16084	[1-52]	16133	[1-153],[187-310]
16085	[1-388]	16134	[1-153],[187-310]
16086	[1-376]	16135	[1-153],[187-341]
16087	[1-499]	16136	[1-153],[187-347]
16088	[1-422]	16137	[1-153],[187-348]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16138	[1-153],[187-351]
16139	[1-153],[187-300]
16140	[1-153],[187-351]
16141	[1-153],[187-327]
16142	[1-322]
16143	[1-153],[187-328]
16144	[1-153],[187-328]
16145	[1-153],[187-354]
16146	[1-479]
16147	[1-410]
16148	[1-183]
16149	[1-393]
16150	[1-434]
16151	[1-353]
16152	[1-110]
16153	[1-559]
16154	[1-193]
16155	[1-498]
16156	[1-390]
16157	[1-512]
16158	[1-476]
16159	[1-523]
16160	[1-157]
16161	[1-201]
16162	[1-202]
16163	[1-201]
16164	[1-201]
16165	[1-201]
16166	[1-200]
16167	[1-202]
16168	[1-527]
16170	[1-409]
16171	[1-492]
16172	[1-395]
16173	[1-479]
16174	[1-333]
16175	[236-342]
16176	[1-81],[229-316]
16177	[1-363]
16178	[1-531]
16179	[1-403]
16180	[1-494]
16181	[1-396]
16182	[1-547]
16183	[1-99],[288-481]
16184	[1-409]
16185	[75-413]
16186	[1-431]
16187	[1-144]
16188	[1-407]
16190	[1-96],[263-458]
16191	[1-477]
16192	[1-488]
16193	[1-211]
16194	[1-132]
16195	[1-447]
16196	[1-493]
16197	[1-369]
16198	[1-441]
16199	[1-478]
16200	[1-435]
16201	[1-451]
16202	[1-492]
16203	[1-364]
16204	[1-146]
16205	[1-467]
16206	[1-463]
16207	[1-430]
16208	[1-444]
16209	[1-453]
16210	[1-204]
16211	[1-393]
16212	[1-343]
16213	[1-440]
16214	[1-478]
16215	[1-478]
16216	[1-363]
16217	[1-322]
16218	[1-359]
16219	[1-348]
16220	[1-536]
16221	[1-291]
16222	[1-493]
16223	[230-313]
16224	[1-585]
16225	[1-112],[427-498]
16226	[1-184],[220-299]
16227	[1-184],[220-300]
16228	[1-409]
16229	[1-416]
16230	[1-516]
16231	[1-483]
16232	[1-385]
16233	[1-161]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16234	[1-182]
16235	[78-312]
16236	[1-598]
16237	[1-249]
16238	[1-124]
16239	[1-87]
16240	[1-122]
16241	[1-317]
16242	[1-97]
16243	[1-502]
16244	[1-401]
16245	[1-496]
16246	[1-337]
16248	[1-57],[88-192],[253-300],[355-514],[561-631]
16249	[1-63]
16250	[1-56]
16251	[1-63]
16252	[1-203],[321-445]
16253	[1-63]
16255	[1-56]
16256	[1-56]
16257	[1-56]
16258	[1-369]
16259	[1-57]
16260	[1-56]
16261	[1-64]
16263	[1-322]
16264	[61-226]
16265	[1-490]
16266	[1-353]
16267	[1-461]
16268	[1-451]
16269	[1-430]
16270	[155-408]
16271	[155-508]
16272	[169-281]
16273	[1-450]
16274	[1-337]
16275	[1-127]
16276	[112-459]
16277	[1-412]
16278	[1-454]
16279	[1-459]
16280	[1-422]
16281	[1-268]
16282	[1-506]

Seq Id No.	Positions of preferred fragments
16283	[1-210]
16284	[1-47],[80-441]
16285	[1-492]
16286	[1-202]
16287	[1-512]
16288	[1-246]
16289	[1-200]
16290	[1-198]
16291	[1-249]
16292	[1-249]
16293	[1-222]
16294	[1-259]
16295	[1-217]
16296	[1-363]
16297	[1-575]
16298	[1-319]
16299	[1-491]
16300	[1-474]
16301	[1-449]
16302	[1-585]
16303	[1-348]
16304	[1-114]
16305	[1-300]
16306	[1-297]
16307	[1-495]
16308	[1-457]
16309	[1-176]
16311	[1-655]
16312	[254-542]
16313	[254-420]
16314	[1-415]
16317	[161-231]
16320	[1-83],[162-242]
16324	[161-242]
16325	[1-155],[288-413]
16326	[1-389]
16327	[1-587]
16328	[1-559]
16329	[1-489]
16330	[1-482]
16331	[1-396]
16332	[1-504]
16333	[1-146]
16334	[1-487]
16335	[1-493]
16336	[1-442]
16337	[1-513]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16338	[1-205]
16339	[1-212]
16340	[1-241]
16341	[1-216]
16342	[1-210]
16343	[1-219]
16344	[1-229]
16345	[1-221]
16346	[1-239]
16347	[1-314]
16348	[1-499]
16349	[1-306]
16350	[1-447]
16351	[1-304]
16352	[1-64],[97-416]
16353	[1-53],[146-289]
16354	[104-139],[253-312],[418-447]
16355	[104-139],[253-436]
16356	[1-534]
16357	[1-304]
16358	[1-473]
16359	[1-494]
16360	[1-432]
16361	[1-281]
16362	[1-97]
16363	[1-506]
16364	[1-457]
16365	[1-438]
16366	[1-290]
16367	[1-315]
16368	[1-391]
16369	[116-267],[365-452]
16370	[1-478]
16371	[1-406]
16372	[1-449],[486-542]
16373	[1-515]
16374	[1-495]
16375	[1-436]
16376	[1-491]
16377	[1-83],[132-364]
16380	[1-400]
16381	[1-167]
16382	[1-82]
16383	[1-497]
16384	[1-472]
16385	[1-72]
16386	[1-490]
16387	[1-391]
16388	[1-490]
16389	[80-161]
16390	[1-440]
16391	[1-456]
16392	[1-407]
16393	[1-406]
16394	[1-376]
16395	[1-449]
16396	[1-141],[217-331],[560-611]
16397	[262-472]
16398	[1-419]
16399	[1-60],[116-508]
16400	[1-433]
16401	[1-848]
16402	[1-257]
16403	[1-421]
16404	[1-496]
16405	[1-432]
16407	[1-180]
16408	[1-204]
16409	[1-222]
16410	[1-569]
16411	[1-526]
16412	[1-372]
16413	[1-457]
16414	[1-423]
16415	[1-402]
16416	[1-442]
16417	[1-442]
16418	[1-395]
16419	[1-400]
16420	[1-403]
16421	[1-371]
16422	[1-392]
16423	[1-464]
16424	[1-413]
16425	[1-193]
16426	[1-317]
16427	[1-504]
16428	[1-317]
16429	[1-295]
16430	[1-319]
16431	[1-294]
16432	[1-293]
16433	[1-292]
16434	[1-334]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16435	[1-298]
16436	[1-139]
16437	[1-379]
16438	[1-384]
16439	[1-505]
16440	[1-424]
16441	[1-474]
16442	[1-278]
16444	[1-492]
16445	[88-388]
16446	[1-485]
16447	[1-155],[203-363]
16448	[1-489]
16449	[1-413],[446-486]
16450	[1-71],[122-274]
16451	[56-93]
16452	[192-355]
16453	[122-175]
16454	[122-203]
16455	[48-115]
16456	[164-192]
16457	[48-115]
16458	[48-115],[148-204]
16459	[1-166],[251-374]
16460	[1-198],[332-486]
16461	[1-521]
16462	[1-495]
16463	[372-454]
16464	[1-473]
16465	[1-441]
16466	[1-489]
16468	[49-131],[180-271]
16469	[69-160]
16470	[1-392]
16471	[1-486]
16472	[1-113],[230-290]
16473	[1-462]
16474	[1-415]
16475	[1-448]
16476	[1-124]
16477	[1-98],[129-162]
16478	[1-119]
16479	[1-95]
16480	[1-104]
16481	[1-134]
16482	[1-137]
16483	[1-154]
16484	[1-441]
16485	[1-108]
16486	[1-94],[125-154]
16487	[1-92]
16488	[1-568]
16489	[1-297]
16490	[1-419]
16491	[1-297]
16492	[1-298]
16493	[1-189]
16494	[1-296]
16495	[1-297]
16496	[1-298]
16497	[1-513]
16498	[1-513]
16499	[1-503]
16500	[1-503]
16501	[1-503]
16502	[1-429]
16503	[1-61]
16504	[1-305]
16505	[1-439]
16506	[43-484]
16507	[1-555]
16508	[1-477]
16509	[1-362]
16510	[1-169]
16511	[58-509]
16512	[1-421]
16514	[1-193]
16515	[1-198]
16516	[1-197]
16517	[1-403]
16518	[52-446]
16519	[1-382]
16520	[1-465]
16521	[1-304]
16522	[1-126]
16524	[1-374]
16525	[1-413]
16526	[1-496]
16528	[1-59],[120-439]
16529	[1-430]
16530	[1-59],[120-470]
16531	[1-59],[120-503]
16532	[1-350]
16533	[1-422]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16534	[1-159]	16582	[1-382]
16535	[1-193]	16583	[315-488]
16536	[1-213]	16584	[1-130]
16537	[1-194]	16585	[1-447]
16538	[1-185]	16586	[57-157]
16539	[1-187]	16587	[1-365]
16540	[1-190]	16588	[1-381]
16541	[1-165]	16589	[1-499]
16542	[1-188]	16590	[1-421]
16543	[1-168]	16591	[1-515]
16544	[1-410]	16592	[1-506]
16545	[1-173]	16593	[1-187]
16546	[1-191]	16594	[1-62]
16547	[1-168]	16595	[1-510]
16548	[1-170]	16596	[1-422]
16549	[1-442]	16597	[1-574]
16550	[1-235]	16598	[1-355]
16551	[1-201]	16599	[1-404]
16552	[1-192]	16600	[1-110]
16553	[1-184]	16601	[1-487]
16554	[1-44],[89-539]	16602	[1-275]
16555	[1-179]	16603	[1-343]
16556	[1-231]	16604	[1-468]
16557	[1-234]	16605	[1-72]
16558	[1-182]	16606	[1-399]
16559	[1-233]	16607	[1-352]
16560	[1-472]	16608	[1-348]
16561	[1-903]	16609	[1-377]
16562	[1-436]	16610	[1-224]
16563	[1-438]	16611	[1-276]
16564	[1-165]	16612	[1-440]
16565	[1-222]	16613	[1-467]
16566	[1-381]	16614	[1-83],[145-201],[232-285],[346-523]
16567	[1-112]	16615	[1-110],[172-228],[259-439]
16568	[1-324],[375-606]	16616	[1-434]
16569	[1-161]	16617	[1-298]
16570	[1-186],[219-469]	16618	[1-469]
16571	[134-333],[393-445]	16619	[1-111],[141-452]
16572	[1-461]	16620	[1-116],[146-326]
16573	[178-222]	16621	[1-96]
16574	[1-495]	16622	[248-431]
16575	[1-471]	16623	[1-60]
16576	[34-300]	16624	[1-458]
16577	[34-403]	16625	[1-488]
16578	[1-458]	16626	[1-473]
16580	[1-127],[219-342]	16627	[1-490]
16581	[1-256],[295-356]	16628	[1-334]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16629	[71-325]
16630	[1-381]
16631	[1-340]
16632	[192-239]
16633	[1-259]
16634	[1-182]
16635	[1-399]
16636	[1-129],[320-460]
16637	[1-443]
16638	[330-402]
16639	[1-367]
16640	[1-361]
16641	[1-482]
16642	[1-464]
16643	[1-67]
16644	[1-348]
16645	[1-414]
16646	[1-293],[446-488]
16647	[1-373]
16648	[1-466]
16649	[1-359]
16650	[1-381]
16651	[1-516]
16652	[1-436]
16653	[1-518]
16654	[342-375]
16655	[1-367]
16656	[1-430]
16657	[1-545],[576-877]
16658	[1-121]
16659	[1-457]
16660	[1-188],[314-463]
16661	[1-475]
16662	[1-348],[419-452]
16663	[1-475]
16664	[1-285]
16665	[1-375]
16666	[1-488]
16667	[1-528]
16668	[1-472]
16669	[1-435]
16670	[1-234],[330-550]
16671	[1-519]
16672	[1-479]
16673	[1-529]
16674	[1-527]
16675	[1-395]
16676	[1-398],[428-609]
16677	[1-387]
16678	[1-394]
16679	[1-216]
16680	[1-113],[230-290]
16681	[1-531]
16682	[1-571]
16684	[229-361]
16685	[85-112]
16686	[85-146]
16688	[85-145]
16689	[85-120]
16690	[84-118]
16691	[85-145]
16692	[83-164]
16694	[85-111]
16695	[85-146]
16696	[81-127]
16697	[1-394]
16698	[1-472]
16699	[81-498]
16700	[1-513]
16701	[1-155]
16702	[1-498]
16703	[1-241]
16704	[1-481]
16705	[1-366]
16706	[1-189],[257-330],[379-408]
16707	[1-369]
16708	[93-326]
16709	[1-162],[238-484]
16710	[1-189],[257-413]
16711	[1-189],[257-430]
16712	[379-425]
16713	[1-160]
16714	[1-329],[378-407]
16715	[1-443]
16716	[1-496]
16717	[141-176]
16718	[1-527]
16719	[1-303]
16720	[1-488]
16721	[52-152]
16722	[1-39],[70-214]
16723	[1-485]
16724	[1-458]
16725	[1-373]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16726	[1-581]
16727	[1-339]
16728	[1-492]
16729	[1-44],[291-381]
16730	[1-76],[231-344]
16731	[1-176]
16732	[1-55],[176-433]
16733	[1-316]
16734	[1-130]
16735	[1-331]
16736	[1-298]
16737	[1-527]
16738	[1-128]
16739	[1-82]
16740	[1-85],[118-146]
16741	[1-292]
16742	[1-565]
16743	[1-342]
16744	[1-432]
16745	[1-536]
16746	[1-402]
16747	[1-461]
16748	[1-474]
16749	[1-503]
16750	[1-530]
16751	[77-625],[753-794]
16752	[78-350]
16753	[1-490]
16754	[1-488]
16755	[49-431]
16757	[1-248]
16758	[38-222]
16759	[1-180]
16760	[1-191]
16761	[1-525]
16762	[1-514]
16763	[1-474]
16764	[1-247],[325-498]
16765	[1-330]
16766	[185-233]
16767	[427-470]
16768	[1-304]
16769	[50-464]
16770	[1-358]
16771	[1-412]
16772	[1-542]
16773	[1-389]

Seq Id No.	Positions of preferred fragments
16774	[1-256]
16775	[1-359]
16776	[1-132]
16777	[1-253]
16778	[1-135]
16779	[1-185]
16780	[1-134]
16781	[1-157]
16782	[1-129]
16783	[1-140]
16784	[1-190]
16785	[1-139]
16786	[1-140]
16787	[1-36],[129-213]
16788	[1-26],[128-157]
16789	[1-131],[322-455]
16790	[1-577],[608-639]
16791	[1-77],[112-280]
16792	[1-71],[324-382]
16793	[1-78],[113-281]
16794	[1-482]
16795	[1-429]
16796	[1-423]
16797	[1-426]
16798	[1-108]
16799	[1-176]
16800	[1-134]
16801	[1-175]
16802	[1-175]
16803	[1-174]
16804	[1-175]
16805	[1-214]
16806	[1-241]
16807	[1-175]
16808	[1-447]
16809	[100-457]
16810	[1-69],[307-400]
16811	[1-528]
16812	[1-190]
16813	[1-266]
16814	[1-214]
16815	[1-55],[91-574]
16816	[1-34],[171-506]
16817	[1-455]
16818	[242-290]
16819	[151-270]
16820	[1-524]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
16821	[1-559]
16822	[1-504]
16823	[1-73],[145-531]
16824	[1-371]
16825	[1-405]
16826	[1-448]
16827	[1-417]
16828	[316-499]
16829	[1-476]
16830	[158-450]
16831	[1-310]
16832	[1-349]
16833	[1-140]
16834	[1-141]
16835	[1-291]
16836	[1-267]
16837	[1-459]
16839	[1-526]
16840	[1-515]
16841	[1-343]
16842	[1-460]
16843	[1-200],[318-458]
16844	[1-417]
16845	[1-501]
16846	[1-471]
16847	[1-197]
16848	[1-432]
16849	[1-495]
16850	[1-429]
16851	[1-843]
16852	[1-449]
16854	[202-323],[384-409]
16855	[1-517]
16856	[1-275]
16857	[1-478]
16858	[196-418]
16859	[1-436]
16860	[1-419]
16861	[43-167],[287-445]
16862	[1-284]
16863	[1-430]
16864	[1-57],[255-436]
16865	[1-400]
16866	[1-302]
16868	[1-122]
16869	[1-156]
16870	[1-168]

Seq Id No.	Positions of preferred fragments
16871	[1-182]
16872	[1-179]
16873	[1-233]
16874	[1-461]
16875	[1-122]
16876	[35-183]
16877	[1-454]
16878	[1-583]
16879	[1-209]
16880	[1-25],[86-548]
16881	[1-602]
16882	[1-424]
16883	[1-313]
16884	[1-293],[438-482]
16885	[1-514]
16886	[1-470]
16887	[1-602]
16888	[1-85]
16889	[108-342]
16890	[1-431]
16891	[1-69]
16892	[171-298]
16893	[45-379]
16894	[1-513]
16895	[1-496]
16896	[1-561]
16897	[1-347]
16898	[36-540]
16899	[1-473]
16900	[1-681]
16901	[1-368]
16902	[1-50],[89-576]
16903	[1-366]
16904	[1-286],[316-397],[431-456]
16905	[1-527]
16906	[1-431]
16907	[1-451]
16908	[1-449]
16909	[1-349]
16910	[1-40]
16911	[1-435]
16912	[1-472]
16913	[1-439]
16914	[1-449]
16915	[1-510]
16916	[1-193]
16917	[1-503]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
16918	[1-445]	16981	[215-242]
16919	[1-505]	16982	[1-236]
16920	[292-478]	16983	[1-277]
16921	[1-491]	16985	[1-162]
16922	[1-526]	16986	[216-242]
16923	[1-531]	16987	[215-253]
16924	[1-154]	16988	[1-74],[213-256]
16925	[1-219]	16989	[215-283]
16926	[1-235]	16990	[216-241]
16927	[1-224]	16991	[215-254]
16929	[1-97]	16992	[1-161]
16930	[1-75]	16993	[216-242]
16931	[1-75]	16996	[1-237]
16932	[1-74],[215-272]	16997	[216-242]
16933	[1-266]	16998	[1-237]
16934	[1-231]	17000	[1-372]
16935	[1-236]	17003	[1-235]
16936	[1-74],[213-269]	17004	[1-97]
16937	[1-75]	17005	[216-241]
16939	[1-162]	17008	[216-243]
16940	[1-79]	17010	[213-241]
16941	[1-236]	17011	[93-474]
16942	[1-75],[216-243]	17012	[1-97]
16943	[1-236]	17013	[1-162]
16945	[1-162]	17014	[1-236]
16946	[215-253]	17015	[216-242]
16947	[1-528]	17016	[215-240]
16948	[1-153],[221-425]	17018	[1-75]
16950	[215-250]	17019	[215-254]
16952	[216-242]	17020	[1-75]
16953	[1-161]	17022	[215-253]
16954	[215-253]	17023	[1-237]
16955	[1-162]	17025	[1-75]
16958	[216-242]	17027	[1-161]
16959	[1-93],[209-387]	17029	[1-162]
16960	[1-74]	17030	[216-242]
16962	[1-232]	17032	[1-491]
16965	[208-293]	17033	[215-254]
16969	[1-160]	17034	[1-236]
16970	[1-162]	17035	[1-162]
16972	[216-243]	17036	[1-161]
16973	[1-161],[215-241]	17039	[216-247]
16974	[215-244]	17040	[1-74]
16975	[216-243]	17042	[216-242]
16976	[1-75]	17043	[1-75],[158-487]
16978	[215-253]	17044	[1-220]
16980	[1-234]	17046	[216-242]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17047	[1-161],[215-241]
17048	[30-161],[214-253]
17049	[215-270]
17051	[1-161]
17052	[1-161]
17053	[216-245]
17054	[1-500]
17055	[1-75]
17056	[215-253]
17057	[1-76]
17062	[1-174]
17063	[215-253]
17064	[1-256]
17066	[216-242]
17067	[217-261]
17069	[1-236]
17070	[1-236]
17071	[1-174],[217-241]
17072	[1-235]
17073	[216-242]
17074	[215-253]
17076	[1-487]
17077	[215-253]
17078	[1-235]
17081	[1-236]
17084	[1-418]
17085	[1-249]
17086	[1-513]
17087	[1-43],[94-223]
17088	[1-308]
17089	[1-487]
17090	[1-506]
17091	[1-214]
17092	[1-256]
17093	[1-508]
17094	[1-414]
17095	[1-235]
17096	[1-261]
17097	[1-83]
17098	[1-72]
17099	[1-449]
17100	[1-710]
17101	[1-482]
17102	[175-534]
17103	[1-434]
17104	[1-442]
17105	[1-542]

Seq Id No.	Positions of preferred fragments
17106	[1-92]
17107	[1-246],[326-477]
17108	[1-411]
17109	[1-332]
17110	[1-139]
17111	[229-402]
17112	[1-449]
17113	[1-510]
17114	[71-143],[340-389]
17115	[1-458]
17116	[1-136]
17117	[1-91]
17118	[1-147],[226-507]
17119	[1-426]
17120	[1-421]
17121	[1-255],[370-471]
17122	[1-452]
17123	[149-312]
17124	[1-426]
17125	[1-562]
17126	[120-410]
17127	[1-505]
17128	[1-379]
17129	[1-415]
17130	[1-547]
17131	[1-470]
17132	[1-520]
17133	[1-371]
17134	[1-510]
17135	[1-476]
17136	[1-474]
17137	[1-447]
17138	[1-346]
17139	[1-503]
17140	[1-374]
17141	[1-123]
17142	[1-75],[183-258]
17143	[1-169]
17144	[1-133]
17145	[1-144]
17146	[1-149]
17147	[1-147]
17148	[1-144]
17149	[1-146]
17150	[1-505]
17151	[1-149]
17152	[1-114]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17153	[65-269]
17154	[1-498]
17155	[1-449]
17156	[1-43],[129-356]
17157	[1-515]
17158	[1-576]
17159	[1-441]
17160	[75-502]
17161	[293-417]
17162	[1-416]
17163	[1-520]
17164	[192-501]
17165	[1-147],[226-474]
17166	[1-477]
17167	[1-591]
17168	[1-473]
17169	[1-396]
17170	[1-506]
17171	[1-564]
17172	[1-431]
17173	[1-407]
17174	[1-347]
17175	[223-477]
17176	[1-853]
17177	[41-498]
17178	[117-142]
17179	[1-571]
17180	[1-165]
17181	[1-433]
17182	[1-159]
17183	[1-109]
17184	[1-137]
17185	[1-110]
17186	[1-354]
17187	[1-339]
17188	[1-323]
17189	[1-491]
17190	[1-98],[278-375]
17191	[1-450]
17192	[1-527]
17193	[1-443]
17194	[1-519]
17195	[1-261]
17196	[1-348]
17197	[1-565]
17198	[1-54]
17199	[1-430]
17200	[1-248]
17201	[1-401]
17202	[1-364]
17203	[1-414]
17204	[1-398]
17205	[1-369]
17206	[1-465]
17207	[1-580]
17208	[1-450]
17209	[1-510]
17210	[1-478]
17211	[1-462]
17212	[103-447]
17213	[1-373]
17214	[1-423]
17215	[1-404]
17216	[1-343],[389-439]
17217	[1-432]
17218	[1-157]
17219	[1-400]
17220	[1-158],[198-535]
17221	[1-565]
17222	[1-571]
17223	[1-362]
17225	[1-285]
17226	[1-462]
17227	[1-126]
17228	[1-377]
17229	[1-65],[204-382]
17232	[1-391]
17233	[1-387]
17235	[1-422]
17236	[1-286]
17237	[1-463]
17238	[1-134],[308-415]
17239	[1-276]
17240	[1-324]
17241	[35-455],[493-523]
17242	[1-329]
17243	[1-510]
17244	[1-468]
17245	[94-194],[250-424]
17246	[1-318]
17247	[261-311]
17248	[1-384]
17249	[1-457]
17250	[32-291]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17251	[1-274]
17252	[1-164],[206-443]
17253	[1-560]
17254	[1-433]
17255	[73-194]
17256	[1-722]
17257	[1-447]
17258	[1-479]
17259	[1-34]
17260	[1-480]
17262	[1-536]
17263	[1-466]
17264	[1-212],[299-454]
17265	[1-489]
17266	[1-472]
17267	[1-544]
17268	[1-384],[415-443],[478-555]
17269	[1-586]
17270	[116-464]
17271	[222-294]
17272	[1-366]
17273	[1-199]
17274	[1-321]
17275	[1-473]
17276	[1-222]
17277	[1-191]
17278	[1-486]
17279	[1-421]
17280	[1-524]
17281	[1-448]
17282	[1-223]
17283	[1-468]
17284	[1-499]
17285	[1-512]
17286	[1-53]
17287	[1-369]
17288	[1-510]
17289	[1-460]
17290	[1-559]
17291	[1-450]
17292	[1-415]
17293	[1-471]
17294	[1-403]
17295	[1-217]
17296	[1-344]
17297	[1-330]
17298	[1-488]

Seq Id No.	Positions of preferred fragments
17299	[1-438]
17300	[1-325]
17301	[1-130]
17302	[1-209]
17303	[1-235]
17304	[1-348]
17305	[1-456]
17306	[1-442]
17307	[1-235],[468-499]
17308	[1-137]
17309	[51-149],[301-478]
17310	[1-124]
17313	[1-181]
17314	[1-471]
17315	[1-412]
17316	[1-520]
17318	[1-84]
17319	[1-526]
17320	[1-250]
17321	[87-490]
17322	[90-253]
17323	[1-425]
17324	[1-498]
17325	[1-517]
17326	[1-396]
17327	[1-542]
17328	[1-77],[111-207],[247-441],[549-595]
17329	[1-541]
17330	[1-334],[473-683],[917-1137],[1267-1549]
17331	[1-346]
17332	[1-492]
17333	[1-447]
17334	[1-499]
17335	[1-437]
17336	[1-411]
17337	[1-447]
17338	[1-169]
17339	[1-354],[384-481]
17340	[1-536]
17341	[1-204],[239-443]
17342	[1-171],[205-392]
17343	[1-301]
17344	[1-249]
17345	[1-391]
17346	[1-417]
17347	[1-470]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17348	[1-116],[224-672]
17349	[1-543]
17350	[1-257]
17352	[1-476]
17353	[51-414]
17354	[1-502]
17355	[1-402]
17356	[1-507]
17357	[1-291]
17358	[1-503]
17359	[1-482]
17360	[1-483]
17361	[1-468]
17362	[1-328]
17363	[1-535]
17364	[1-416]
17365	[1-472]
17366	[1-87]
17367	[1-437]
17368	[1-460]
17369	[1-267],[544-591]
17370	[1-443]
17371	[1-66],[162-250]
17372	[1-50]
17373	[1-502]
17374	[1-34],[87-479]
17375	[1-501]
17376	[1-434]
17377	[1-441]
17378	[1-222],[408-504]
17379	[1-111]
17380	[1-446]
17381	[1-116]
17382	[1-488]
17383	[1-481]
17384	[1-474]
17385	[52-149]
17386	[80-481]
17387	[1-480]
17388	[1-318]
17389	[1-304]
17390	[1-232]
17391	[1-28],[144-376]
17392	[1-221]
17393	[101-333]
17394	[1-579]
17395	[1-97]

Seq Id No.	Positions of preferred fragments
17396	[1-464]
17398	[1-457]
17399	[1-532]
17400	[1-493]
17401	[1-560]
17402	[1-620]
17403	[1-412]
17404	[1-285]
17405	[1-398]
17406	[86-386]
17407	[1-174]
17408	[1-375]
17409	[1-547]
17410	[1-321],[426-473]
17411	[1-452]
17412	[1-240]
17413	[1-223]
17414	[1-225]
17415	[1-228]
17416	[1-225]
17417	[1-225]
17418	[1-224]
17419	[1-225]
17420	[1-225]
17421	[1-225]
17422	[1-225]
17423	[1-224]
17424	[184-504]
17425	[507-578]
17426	[1-432]
17427	[56-399]
17429	[1-249]
17430	[33-337]
17431	[1-391]
17432	[1-427]
17433	[1-391]
17434	[1-82]
17435	[1-448]
17436	[1-353]
17437	[1-81],[141-497]
17438	[1-507]
17439	[1-447]
17440	[1-383]
17441	[1-404]
17442	[1-131]
17443	[1-349]
17444	[1-118]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17445	[1-471]
17446	[1-141]
17447	[1-148]
17448	[1-159]
17449	[1-140]
17450	[1-148]
17451	[1-153]
17452	[1-144]
17453	[1-131]
17454	[1-129]
17455	[1-130]
17456	[1-346]
17457	[1-140]
17458	[1-596]
17459	[1-478]
17460	[1-466]
17461	[1-454]
17462	[1-364]
17463	[1-477]
17464	[1-874]
17465	[80-147],[181-424]
17466	[1-167]
17467	[144-176]
17468	[1-521]
17469	[1-65],[242-356]
17470	[1-365]
17471	[282-550]
17472	[1-113]
17473	[154-246]
17474	[1-440]
17475	[1-460]
17476	[1-318]
17477	[1-67]
17478	[1-55]
17479	[1-536]
17480	[1-416]
17481	[1-523]
17482	[1-466]
17483	[1-300]
17484	[1-491]
17485	[1-470]
17486	[1-490]
17487	[1-415]
17488	[1-612]
17489	[1-432]
17490	[244-317]
17491	[1-362]

Seq Id No.	Positions of preferred fragments
17492	[1-379]
17493	[1-382]
17494	[1-467]
17495	[1-407]
17496	[1-483]
17497	[1-281]
17498	[1-521]
17499	[1-403]
17500	[1-92]
17501	[1-103]
17502	[1-137]
17503	[1-126]
17504	[1-492]
17506	[1-92]
17507	[1-530]
17508	[1-367],[402-446]
17509	[1-514]
17510	[1-120]
17511	[1-522]
17512	[1-546]
17513	[181-483]
17514	[1-415]
17515	[144-490]
17516	[1-444]
17517	[1-492]
17518	[1-578]
17519	[1-512]
17520	[1-104],[225-394]
17521	[1-567]
17522	[1-561]
17523	[1-415]
17524	[1-305],[434-458]
17525	[1-580]
17526	[1-514]
17527	[1-487]
17528	[1-209]
17529	[68-381]
17530	[1-425]
17531	[139-449]
17532	[1-236]
17533	[1-517]
17534	[1-485]
17535	[1-243]
17536	[1-352]
17537	[179-278],[340-589]
17538	[333-483]
17539	[1-544]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
17540	[1-394]	17588	[1-480]
17541	[102-251],[383-424]	17589	[1-194]
17542	[1-481]	17590	[1-364]
17543	[1-400]	17591	[1-478]
17544	[1-468]	17592	[1-475]
17545	[1-257]	17593	[1-68],[294-472]
17546	[1-502]	17594	[1-344]
17547	[1-293]	17595	[1-503]
17548	[102-147],[383-437]	17596	[40-106],[162-439]
17549	[37-405]	17597	[1-412]
17550	[1-460]	17598	[1-385]
17551	[1-393]	17599	[1-639]
17552	[1-165]	17600	[1-487]
17553	[1-432]	17601	[1-41],[100-425]
17554	[1-251]	17602	[1-329]
17555	[1-378]	17604	[1-352]
17556	[1-186]	17605	[65-435]
17557	[1-416]	17606	[1-504]
17558	[1-369]	17607	[104-228]
17559	[1-250]	17608	[223-261]
17560	[1-822]	17610	[223-269]
17561	[1-424]	17611	[1-345]
17562	[1-433]	17612	[1-204]
17563	[1-40],[82-260]	17613	[71-441]
17564	[1-435]	17614	[1-442]
17565	[1-284]	17615	[50-169]
17566	[1-224],[321-390]	17616	[1-458]
17567	[1-325]	17618	[1-476]
17568	[1-442]	17619	[1-199]
17569	[1-628]	17620	[1-462]
17570	[59-281]	17621	[1-597]
17571	[1-283],[329-547]	17622	[1-249]
17572	[1-390]	17623	[61-221]
17573	[1-70]	17624	[1-243]
17574	[1-1157]	17625	[1-81],[115-215]
17576	[1-421]	17626	[1-279]
17577	[1-554]	17627	[1-367]
17578	[1-80],[112-183]	17628	[1-33],[65-107],[227-397],[436-700]
17579	[105-253]	17629	[1-388]
17580	[1-336]	17630	[1-381]
17581	[1-556]	17631	[1-443]
17582	[1-224]	17632	[1-145]
17583	[1-341]	17633	[1-510]
17584	[61-247]	17634	[1-471]
17585	[1-239]	17635	[1-440]
17586	[1-379]	17636	[162-461]
17587	[1-472]	17637	[1-340]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17638	[1-518]
17639	[1-534]
17640	[1-667]
17641	[1-351]
17642	[1-459]
17643	[1-515]
17644	[1-66]
17645	[1-64]
17646	[1-537]
17647	[1-501]
17648	[1-159]
17649	[1-140]
17650	[1-593]
17651	[1-604]
17652	[1-333]
17653	[1-98]
17654	[1-322]
17655	[1-396]
17656	[1-487]
17657	[31-170]
17658	[86-127],[214-511]
17659	[1-475]
17660	[1-314]
17661	[1-400]
17662	[1-443]
17663	[1-399]
17664	[1-404]
17665	[1-200]
17666	[1-509]
17667	[1-483]
17668	[1-416]
17669	[1-255]
17670	[1-286]
17671	[1-493]
17672	[56-382]
17673	[1-500]
17674	[1-495]
17675	[1-435]
17676	[1-475]
17678	[1-154]
17680	[1-273],[350-433]
17681	[64-497]
17682	[64-510]
17683	[1-160]
17684	[1-139]
17685	[1-410]
17686	[1-220]

Seq Id No.	Positions of preferred fragments
17687	[1-382]
17688	[1-491]
17689	[1-476]
17690	[1-140],[172-439]
17691	[1-348]
17692	[1-447]
17693	[1-446]
17694	[1-32],[94-216]
17695	[1-428]
17696	[1-59]
17697	[1-249]
17698	[1-245]
17699	[1-153]
17700	[1-531]
17701	[1-232]
17702	[158-448]
17703	[1-387]
17704	[1-274]
17705	[1-474]
17706	[1-143]
17707	[1-536]
17708	[1-449]
17709	[1-404]
17710	[1-230]
17711	[1-489]
17712	[1-566]
17713	[1-220]
17714	[1-483]
17715	[1-223]
17716	[1-500]
17717	[1-173],[310-383]
17718	[74-324]
17719	[1-375]
17720	[1-265]
17721	[118-448]
17722	[1-398]
17723	[1-35],[161-405]
17724	[1-499]
17725	[1-497]
17726	[1-60]
17727	[1-406]
17728	[1-490]
17729	[1-267]
17730	[1-322]
17731	[1-438]
17732	[1-137],[241-500]
17734	[1-486]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17735	[1-499]
17736	[1-68]
17737	[1-382]
17738	[1-512]
17739	[1-516]
17740	[1-491]
17741	[1-362]
17742	[1-502]
17743	[1-102]
17744	[1-149]
17745	[1-432]
17746	[1-459]
17747	[1-97]
17748	[1-401]
17749	[1-300]
17750	[1-410]
17751	[1-495]
17753	[1-163],[280-477]
17754	[74-342],[459-488]
17755	[64-475]
17756	[1-380]
17757	[1-399]
17758	[1-217],[402-517]
17759	[1-236]
17760	[1-495]
17761	[1-522]
17762	[1-384]
17763	[1-490]
17764	[34-448]
17765	[1-505]
17766	[1-364]
17767	[1-298]
17768	[1-210],[247-336],[367-431]
17769	[1-510]
17770	[1-491]
17771	[1-455]
17772	[1-418]
17773	[1-486]
17774	[1-257],[373-413]
17775	[1-195]
17776	[1-285]
17777	[1-123]
17778	[1-458]
17779	[1-498]
17780	[120-335]
17781	[1-348]
17782	[1-392]
17783	[1-469]
17784	[1-212]
17785	[1-481]
17786	[1-441]
17787	[1-483]
17788	[1-433]
17789	[282-343]
17790	[59-424]
17791	[1-501]
17792	[50-383]
17793	[57-517]
17794	[1-253]
17795	[1-419]
17796	[1-364]
17797	[1-504]
17798	[1-50]
17799	[1-525]
17800	[1-448]
17801	[1-506]
17802	[1-459]
17803	[1-413]
17804	[1-477]
17805	[1-426]
17806	[1-365]
17807	[1-314]
17808	[1-432]
17809	[1-441]
17810	[1-66],[297-374]
17811	[75-217],[259-435]
17812	[1-404]
17813	[1-434]
17814	[1-481]
17815	[1-573]
17816	[1-384]
17817	[78-123],[326-495]
17818	[1-296]
17819	[1-355]
17820	[1-65],[242-542]
17821	[1-269]
17822	[1-204]
17823	[30-204],[265-449]
17824	[119-211]
17825	[1-246]
17826	[168-193]
17827	[1-444]
17828	[1-329]
17829	[1-464]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
17830	[1-229]	17877	[1-201]
17831	[1-388]	17878	[1-512]
17832	[1-396]	17879	[1-420]
17833	[1-445]	17880	[1-114]
17834	[1-515]	17881	[1-504]
17835	[1-414]	17882	[1-636]
17836	[1-377]	17883	[1-472]
17837	[1-308]	17884	[1-386]
17838	[1-451]	17885	[1-432]
17839	[1-381]	17886	[1-508]
17840	[1-421]	17887	[1-433]
17841	[1-416]	17888	[1-196],[240-494]
17842	[1-428]	17889	[1-478]
17843	[1-377]	17890	[1-462]
17844	[1-432]	17891	[1-183]
17845	[1-257]	17892	[1-86],[301-426]
17846	[1-387]	17893	[1-399]
17847	[1-343]	17894	[32-519]
17848	[1-577]	17895	[1-43],[127-315]
17849	[1-173]	17896	[1-255],[294-424]
17850	[1-347]	17897	[1-162],[332-448]
17851	[1-355]	17898	[1-484]
17852	[1-585]	17899	[1-501]
17853	[1-562]	17900	[1-288]
17854	[1-711]	17901	[1-402]
17855	[1-182]	17902	[1-380]
17856	[1-436]	17903	[1-483]
17857	[1-405]	17904	[1-258]
17858	[247-334]	17905	[1-453]
17859	[1-397]	17906	[1-435]
17860	[1-307]	17907	[1-299]
17861	[1-435]	17908	[1-464]
17862	[1-414]	17909	[1-295]
17863	[1-127]	17910	[1-447]
17864	[1-395]	17912	[1-500]
17865	[1-65]	17913	[1-117]
17866	[1-361]	17914	[1-107]
17867	[1-408]	17915	[1-481]
17868	[1-223]	17916	[1-546]
17869	[45-349]	17917	[1-512]
17870	[1-122]	17918	[1-293]
17871	[1-283]	17919	[1-207]
17872	[1-275]	17920	[1-215]
17873	[1-470]	17921	[1-246]
17874	[1-379]	17922	[1-218]
17875	[1-357]	17923	[1-266]
17876	[1-442]	17924	[1-241]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
17925	[1-262]
17926	[1-259]
17927	[1-270]
17928	[1-217]
17929	[1-235]
17930	[1-225]
17931	[1-248]
17932	[1-225]
17933	[1-226]
17934	[1-218]
17935	[1-228]
17936	[1-241]
17937	[1-242]
17938	[1-247]
17939	[1-243]
17940	[1-243]
17941	[1-237]
17942	[1-236]
17943	[1-248]
17944	[1-214]
17945	[1-245]
17946	[1-216]
17947	[1-225]
17948	[1-229]
17949	[1-219]
17950	[1-520]
17951	[1-444]
17952	[44-489]
17953	[1-495]
17954	[1-437]
17955	[1-538]
17956	[1-219]
17957	[1-487]
17958	[1-400]
17959	[1-440]
17960	[144-302],[437-478]
17961	[1-427]
17962	[1-202]
17963	[1-43],[108-364]
17964	[1-43],[108-360]
17965	[1-43],[108-378]
17966	[1-43],[108-516]
17967	[1-468]
17968	[1-63]
17969	[1-412]
17970	[1-232]
17971	[1-68]

Seq Id No.	Positions of preferred fragments
17972	[1-336]
17973	[1-503]
17974	[1-472]
17975	[1-447]
17976	[1-480]
17977	[1-435]
17978	[1-427]
17979	[1-508]
17980	[1-510]
17981	[1-464]
17982	[1-55],[91-442]
17983	[1-178]
17984	[1-532]
17985	[1-456]
17986	[1-63]
17987	[1-138]
17988	[1-304]
17989	[1-381]
17990	[1-212]
17991	[1-387]
17993	[1-439]
17994	[1-469]
17995	[1-461]
17996	[1-352]
17997	[181-287]
17998	[1-147]
17999	[1-317]
18000	[1-446]
18001	[1-417]
18002	[1-514]
18003	[1-293]
18004	[1-510]
18005	[1-302]
18006	[1-322]
18007	[1-431]
18008	[1-484]
18009	[1-472]
18010	[1-198]
18011	[1-497]
18012	[1-189]
18013	[1-375]
18014	[1-124],[208-337]
18015	[1-484]
18016	[1-442]
18017	[1-71]
18018	[1-167]
18019	[1-174]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18020	[1-278]
18021	[1-502]
18022	[1-59]
18023	[1-64]
18024	[1-505]
18025	[1-341]
18026	[1-451]
18027	[1-181]
18028	[1-187]
18029	[1-425]
18031	[1-521]
18032	[1-424]
18033	[1-474]
18034	[1-191]
18035	[1-206]
18036	[1-381]
18037	[1-208]
18038	[1-67]
18039	[1-145]
18040	[1-389]
18041	[1-245]
18042	[1-406]
18043	[1-462]
18044	[1-91]
18045	[1-86]
18046	[1-433]
18047	[1-400]
18048	[1-106]
18049	[1-318]
18050	[1-363]
18051	[1-235]
18052	[1-454]
18053	[1-477]
18054	[1-179]
18055	[1-74]
18056	[1-125]
18058	[1-153]
18059	[75-218],[282-477]
18060	[1-552]
18061	[1-392]
18062	[1-195]
18063	[1-364]
18064	[1-443]
18065	[1-109]
18066	[1-160]
18067	[91-393]
18068	[1-162]
18069	[1-54]
18070	[1-427]
18071	[1-160]
18072	[130-250],[422-450]
18073	[1-518]
18074	[1-198]
18075	[1-120]
18076	[1-209]
18077	[144-304]
18078	[1-483]
18079	[1-33]
18080	[1-458]
18081	[1-512]
18082	[1-217]
18083	[63-475]
18084	[1-114]
18085	[1-42],[87-220]
18086	[63-456]
18087	[1-335]
18088	[1-407]
18089	[1-259]
18090	[1-87]
18091	[63-270]
18092	[1-480]
18093	[128-426]
18094	[1-473]
18095	[1-448]
18096	[1-193]
18097	[1-189]
18098	[1-160],[238-411]
18099	[58-103]
18100	[1-312]
18101	[41-441]
18102	[1-63]
18103	[64-311]
18104	[1-64]
18105	[1-458]
18106	[175-233],[319-428]
18107	[1-620]
18108	[1-825]
18109	[1-96]
18110	[1-553]
18111	[1-482]
18112	[1-424]
18113	[1-507]
18114	[173-338]
18115	[1-497]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18116	[1-467]
18117	[1-175]
18118	[1-270]
18119	[1-509]
18120	[1-403]
18121	[1-493]
18122	[1-62]
18123	[1-366]
18124	[1-69]
18125	[1-372]
18126	[164-201],[368-412]
18127	[1-268],[327-488]
18128	[1-169],[252-292]
18129	[1-486]
18130	[1-192]
18131	[1-314]
18132	[1-191],[221-519]
18133	[1-394]
18134	[1-68]
18135	[1-387]
18136	[1-63],[102-259],[345-446]
18137	[1-445]
18138	[1-410]
18139	[1-45],[149-356]
18140	[1-72]
18141	[1-336]
18142	[1-44],[171-319]
18143	[1-44],[149-375]
18144	[1-45],[150-321]
18145	[1-44],[148-350]
18146	[1-44],[148-344]
18147	[1-322]
18148	[163-200],[268-403]
18149	[1-113],[148-362]
18150	[1-44],[148-343]
18151	[1-44],[149-365]
18152	[1-72],[142-199]
18153	[1-44],[172-357]
18154	[1-44],[148-340]
18155	[1-44],[149-360]
18156	[1-45],[150-350]
18157	[1-44],[148-348]
18158	[156-221],[271-406]
18159	[1-44],[148-348]
18160	[1-44],[149-361]
18161	[1-44],[149-362]
18162	[1-44],[149-320]
18163	[1-44],[149-348]
18164	[1-44],[148-344]
18165	[1-44],[148-320]
18166	[1-45],[149-321]
18167	[167-266]
18168	[1-44],[148-356]
18169	[1-44],[148-320]
18170	[1-88],[160-196],[397-423]
18171	[1-46],[150-357]
18172	[1-86]
18173	[1-331]
18174	[1-46],[95-240],[276-469],[501-631]
18175	[1-178]
18176	[1-406]
18177	[1-325]
18178	[192-498]
18179	[1-353]
18180	[1-364]
18181	[1-494]
18182	[1-363]
18183	[1-333]
18184	[1-196]
18185	[1-203]
18186	[1-189]
18187	[51-202]
18188	[83-367]
18189	[1-249]
18190	[1-492]
18191	[1-493]
18192	[1-296]
18193	[1-495]
18194	[1-420]
18195	[1-266]
18196	[1-537]
18197	[1-437]
18198	[1-436]
18199	[50-476]
18200	[33-256]
18201	[1-250]
18202	[1-247]
18203	[1-207]
18204	[1-345]
18205	[33-336]
18206	[33-512]
18207	[33-339]
18208	[33-428]
18209	[33-418]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18210	[1-487]
18211	[1-244]
18212	[1-442]
18213	[1-263]
18214	[1-419]
18215	[33-448]
18216	[33-219]
18217	[33-365]
18218	[1-555]
18219	[1-466]
18220	[85-172]
18221	[1-254]
18222	[1-430]
18223	[1-505]
18224	[1-343]
18225	[1-306]
18226	[1-538]
18227	[1-546]
18228	[1-409]
18229	[1-461]
18231	[70-395]
18232	[1-71]
18233	[1-436]
18235	[1-418]
18236	[1-337]
18237	[1-661]
18238	[1-457]
18239	[1-453]
18240	[162-293]
18241	[1-402]
18242	[1-413]
18243	[1-396]
18244	[1-509]
18245	[1-200],[230-418]
18246	[1-380],[441-540]
18248	[1-148]
18249	[1-383]
18250	[1-472]
18251	[1-581]
18252	[1-414]
18253	[1-429]
18254	[1-513]
18255	[1-407]
18256	[1-153]
18257	[1-438]
18258	[1-341]
18259	[1-496]
18260	[1-467]
18261	[1-577]
18262	[1-430]
18263	[1-445]
18264	[1-551]
18265	[1-513]
18266	[1-546]
18267	[1-476]
18268	[1-106]
18269	[1-403]
18270	[1-270]
18271	[1-385]
18272	[1-318]
18273	[1-387]
18274	[1-169]
18275	[1-592]
18276	[1-453]
18277	[1-204]
18278	[63-371]
18279	[1-365]
18280	[1-397]
18281	[1-204]
18282	[1-438]
18283	[1-559]
18284	[84-363]
18285	[1-446]
18286	[1-86],[187-355]
18287	[1-151]
18288	[1-433]
18289	[1-418]
18290	[1-368]
18291	[1-387]
18292	[1-354]
18293	[39-439]
18294	[1-400]
18295	[1-340]
18296	[1-465]
18297	[1-426]
18298	[1-128]
18299	[1-73],[157-425]
18300	[1-494]
18302	[1-239]
18303	[1-519]
18304	[1-535]
18305	[1-512]
18306	[1-438]
18307	[1-115]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18308	[1-100],[192-349],[419-503]
18309	[1-426]
18310	[1-380]
18311	[1-168]
18312	[1-444]
18313	[1-452]
18314	[1-422]
18315	[1-362]
18316	[1-472]
18318	[1-301]
18319	[1-590]
18320	[1-478]
18321	[1-154]
18322	[1-436]
18323	[1-517]
18324	[1-461]
18325	[1-402]
18326	[39-109]
18327	[1-139]
18328	[1-242]
18329	[1-276]
18330	[1-261]
18331	[1-283]
18332	[1-191]
18333	[1-173]
18334	[1-98]
18335	[1-473]
18336	[329-468]
18337	[1-552]
18338	[1-237]
18339	[1-206],[435-490]
18340	[1-172],[218-592]
18341	[1-413]
18342	[1-72]
18343	[1-60]
18344	[1-115]
18345	[1-478]
18346	[1-391]
18347	[1-55],[146-190],[267-351]
18348	[1-440]
18349	[1-71]
18350	[1-544]
18351	[1-465]
18352	[1-464]
18353	[1-244]
18354	[1-495]
18355	[1-503]

Seq Id No.	Positions of preferred fragments
18356	[1-518]
18357	[1-165]
18358	[131-240],[400-521]
18359	[1-424]
18360	[1-404]
18361	[137-224]
18362	[64-141]
18363	[1-250]
18364	[39-389]
18365	[39-315]
18366	[36-358]
18367	[1-203]
18368	[1-183]
18369	[1-111]
18370	[35-401]
18371	[1-183]
18372	[1-285]
18373	[1-279]
18374	[1-58]
18375	[1-172]
18376	[1-202]
18377	[1-116]
18378	[1-460]
18379	[1-437]
18380	[1-492]
18381	[1-498]
18382	[1-250]
18384	[1-103],[134-159]
18385	[1-97]
18386	[1-478]
18387	[175-244]
18388	[1-497]
18389	[1-485]
18390	[1-166]
18391	[1-95]
18392	[1-427]
18393	[1-388]
18394	[1-65],[101-432]
18395	[1-392]
18396	[1-348]
18397	[1-258],[298-361]
18398	[66-448]
18399	[1-439]
18400	[90-183]
18401	[1-96]
18402	[1-356]
18403	[1-137]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18404	[1-391]
18405	[1-533]
18406	[1-145]
18407	[1-187]
18408	[1-503]
18409	[1-315]
18410	[1-499]
18411	[1-369]
18412	[1-50],[377-408]
18413	[159-389]
18414	[1-340]
18415	[1-367]
18416	[1-377]
18417	[1-522]
18418	[1-483]
18419	[1-547]
18420	[1-97]
18421	[1-228]
18422	[1-102]
18423	[1-476]
18424	[1-412]
18425	[1-478]
18426	[1-143]
18427	[1-64]
18428	[1-186]
18429	[1-509]
18430	[1-427]
18431	[1-93]
18432	[78-115]
18433	[78-134]
18434	[78-137]
18435	[1-55]
18436	[60-358]
18437	[1-96],[253-414]
18438	[1-61]
18439	[1-129],[259-443]
18440	[1-269]
18441	[1-464]
18442	[1-518]
18443	[1-377]
18444	[1-387]
18445	[1-275]
18446	[1-278]
18447	[1-216]
18448	[1-396]
18449	[1-425]
18450	[54-353]
18451	[54-353]
18452	[54-282]
18453	[1-215]
18454	[159-235],[339-373]
18455	[1-406]
18456	[1-421]
18457	[1-55]
18458	[1-148]
18460	[1-338]
18461	[1-107]
18462	[1-56]
18463	[1-462]
18465	[1-414]
18466	[1-398]
18467	[1-394]
18468	[1-289]
18469	[1-439]
18470	[1-412]
18471	[1-410]
18472	[1-440]
18473	[1-417]
18474	[1-426]
18475	[1-271]
18476	[1-324]
18477	[1-237]
18478	[39-478]
18479	[1-46]
18480	[1-46]
18481	[1-326]
18482	[1-437]
18483	[1-353]
18484	[1-102]
18485	[1-472]
18486	[1-577]
18487	[1-493]
18488	[1-286]
18489	[1-435]
18490	[1-405]
18491	[1-680]
18492	[1-553]
18493	[1-216]
18494	[55-101],[162-407]
18495	[124-447]
18496	[46-465]
18497	[1-469]
18498	[1-422]
18500	[1-508]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18501	[1-476]
18502	[1-473]
18503	[1-445]
18504	[1-289]
18505	[1-554]
18506	[146-446]
18507	[1-563]
18508	[1-485]
18509	[1-505]
18510	[1-510]
18511	[1-488]
18512	[1-564]
18513	[1-450]
18514	[1-523]
18515	[1-190]
18516	[1-541]
18517	[1-259],[321-387]
18518	[1-513]
18519	[1-259],[371-416]
18520	[1-487]
18521	[1-471]
18522	[1-400]
18523	[1-403]
18524	[1-406],[468-508]
18525	[1-461]
18526	[1-402],[464-507]
18527	[1-404]
18528	[1-450]
18529	[1-432]
18530	[1-393]
18531	[1-400]
18532	[1-407],[469-493]
18533	[1-404],[466-492]
18534	[1-401]
18535	[1-59]
18536	[1-401]
18537	[1-403]
18538	[1-360],[422-478]
18539	[1-400]
18540	[1-401]
18541	[1-425]
18542	[1-400]
18543	[1-475]
18544	[1-416]
18545	[1-472]
18546	[1-402]
18547	[1-434]

Seq Id No.	Positions of preferred fragments
18548	[1-509]
18549	[1-93],[136-194],[255-563]
18550	[45-105],[164-457]
18551	[1-462]
18552	[1-472]
18553	[1-350]
18554	[1-247],[356-459]
18555	[1-509]
18556	[1-567]
18557	[1-467]
18558	[1-513]
18559	[1-515]
18560	[1-511]
18561	[1-377]
18562	[1-541]
18563	[1-378]
18564	[1-427]
18566	[167-449]
18567	[1-495]
18568	[1-414]
18569	[1-352]
18570	[1-359]
18571	[1-397]
18572	[1-359]
18573	[1-388]
18574	[51-400]
18575	[1-341]
18576	[1-499]
18577	[1-497]
18578	[1-494]
18579	[295-427]
18580	[53-266]
18581	[37-507]
18582	[1-364]
18583	[1-231],[274-434]
18584	[1-205]
18585	[1-386]
18586	[1-67]
18587	[1-180]
18588	[1-193]
18589	[1-147]
18590	[1-498]
18591	[1-452]
18592	[1-584]
18593	[1-288]
18594	[1-450]
18595	[52-510]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18596	[1-422]
18597	[1-437]
18598	[1-406]
18599	[1-531]
18600	[1-516]
18601	[1-496]
18602	[1-314]
18603	[1-433]
18604	[1-419]
18605	[1-176]
18606	[1-208]
18607	[1-85],[121-396]
18608	[1-469]
18609	[46-168]
18610	[136-190],[246-417]
18612	[1-346]
18613	[228-293],[354-480]
18614	[1-410]
18615	[1-269]
18616	[1-517]
18617	[1-500]
18618	[1-508]
18619	[1-483]
18620	[1-63]
18621	[1-492]
18622	[1-470]
18623	[1-437]
18624	[1-28],[138-331],[362-479]
18625	[1-28],[137-405]
18626	[108-325]
18627	[109-331]
18628	[1-474]
18629	[108-307]
18630	[1-493]
18631	[118-222],[424-471]
18632	[1-160],[300-441]
18633	[62-442]
18634	[62-160],[300-441]
18635	[1-104]
18636	[1-433]
18637	[1-489]
18638	[1-332]
18639	[1-405]
18640	[157-474]
18641	[1-540]
18642	[1-313]
18643	[1-459]
18644	[1-30],[73-179]
18645	[105-477]
18647	[1-335]
18648	[171-282]
18649	[1-516]
18650	[1-263]
18651	[1-518]
18652	[1-507]
18653	[250-397]
18654	[117-218]
18655	[1-284]
18656	[1-159]
18657	[1-727]
18658	[1-180]
18659	[1-431]
18660	[67-411]
18661	[1-209]
18662	[1-501]
18663	[1-485]
18664	[37-389]
18665	[1-348]
18666	[1-83],[212-483]
18667	[1-83],[212-403]
18668	[1-512]
18669	[1-174],[216-297]
18670	[1-463]
18671	[1-332],[394-421]
18672	[38-315]
18673	[37-314]
18674	[1-270]
18675	[1-493]
18676	[1-179]
18677	[1-405]
18678	[104-357]
18679	[1-474]
18680	[1-498]
18681	[1-501]
18682	[1-458]
18683	[1-377]
18684	[1-354]
18685	[1-509]
18686	[1-360]
18687	[1-510]
18688	[1-503]
18689	[1-399]
18690	[1-368]
18691	[1-70]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18692	[1-373]
18693	[1-137]
18694	[1-94],[222-337]
18695	[1-81]
18696	[1-161]
18697	[1-66],[194-255]
18701	[1-177],[228-393]
18704	[1-178],[225-385]
18706	[1-525]
18707	[1-94]
18709	[1-93],[139-218],[292-388]
18710	[1-236]
18711	[1-94],[140-232],[322-387]
18715	[1-94],[140-204]
18716	[1-314]
18717	[1-94]
18718	[1-62]
18719	[1-69]
18720	[1-235]
18721	[1-341]
18722	[1-94]
18725	[1-94]
18726	[1-486]
18727	[1-50]
18728	[84-110],[173-221]
18730	[1-63]
18731	[1-44],[84-110],[225-403]
18732	[1-70]
18733	[1-63]
18734	[1-70]
18735	[31-374]
18736	[1-89],[170-384]
18737	[1-109]
18740	[31-406]
18742	[1-63]
18743	[231-255]
18745	[227-289]
18746	[1-93]
18747	[1-51]
18748	[1-64]
18749	[1-181],[296-431]
18750	[1-93],[220-247]
18752	[1-365]
18753	[1-50]
18754	[111-221],[295-319]
18756	[1-304],[350-386]
18757	[1-44],[84-389]
18758	[1-109]
18759	[1-31],[125-343],[389-426]
18760	[1-461]
18761	[1-70]
18762	[140-249],[325-487]
18763	[1-44],[110-405]
18764	[1-94],[174-220],[294-359]
18765	[1-182],[255-376]
18766	[94-367]
18768	[1-68]
18769	[1-216],[327-404]
18770	[1-59]
18771	[1-266]
18772	[1-97],[225-271],[326-391]
18773	[95-361],[413-457]
18774	[1-228],[302-339]
18775	[1-71]
18777	[1-109]
18778	[1-94]
18779	[1-390]
18780	[94-346]
18781	[1-93]
18783	[1-94]
18784	[1-66]
18786	[1-67]
18787	[1-67]
18788	[140-229]
18789	[94-435]
18791	[1-527]
18792	[1-466]
18793	[1-510]
18794	[1-453]
18795	[1-465]
18796	[1-503]
18797	[1-444]
18798	[1-482]
18799	[1-403]
18800	[1-506]
18801	[1-600]
18802	[73-245],[423-499]
18803	[97-204],[445-487]
18804	[1-83]
18805	[1-490]
18806	[1-447]
18807	[1-447]
18808	[1-495]
18810	[1-297]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18811	[1-87]
18812	[1-506]
18813	[1-484]
18814	[1-176],[208-896]
18815	[1-509]
18816	[1-561]
18817	[1-487]
18818	[1-504]
18819	[1-533]
18820	[1-440]
18821	[1-593]
18825	[1-490]
18826	[1-402]
18827	[1-433]
18828	[43-445]
18830	[1-282]
18831	[1-399],[486-522]
18832	[1-522]
18833	[40-445]
18834	[101-394]
18835	[1-532]
18836	[1-464]
18837	[1-188]
18838	[1-265]
18839	[1-374]
18840	[1-439]
18841	[1-452]
18842	[1-225]
18843	[1-438]
18844	[1-141],[173-208],[305-412]
18845	[1-494]
18846	[1-401]
18847	[1-352]
18848	[1-416]
18849	[1-489]
18850	[1-80]
18851	[1-357]
18852	[1-360]
18853	[1-360]
18854	[1-377]
18855	[1-382]
18856	[1-383]
18857	[1-427]
18858	[1-391]
18859	[1-485]
18860	[1-335]
18861	[1-453]

Seq Id No.	Positions of preferred fragments
18862	[1-501]
18863	[1-353]
18864	[1-132]
18865	[186-228]
18866	[1-177]
18867	[1-446]
18869	[1-716]
18870	[1-250]
18871	[1-238]
18872	[1-269]
18873	[1-300]
18874	[1-490]
18875	[1-482]
18876	[105-425]
18877	[1-501]
18878	[1-476]
18879	[1-319]
18880	[1-463],[498-563]
18881	[1-460]
18882	[1-461]
18883	[1-485]
18884	[1-496]
18885	[253-936]
18886	[1-138],[207-410]
18887	[1-49],[110-138]
18889	[1-449]
18890	[1-467]
18891	[1-170]
18892	[1-524]
18893	[1-250]
18894	[1-409]
18895	[1-426]
18896	[1-284]
18897	[60-89],[136-344]
18898	[1-154],[189-218],[265-301]
18899	[1-35],[89-378]
18900	[1-351]
18901	[1-507]
18903	[1-479]
18904	[256-304]
18905	[1-51]
18906	[1-155]
18907	[1-155]
18908	[179-424]
18909	[1-51]
18910	[1-150],[214-361]
18911	[1-42],[129-381]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
18912	[1-52]
18913	[1-44],[131-273]
18914	[1-51]
18915	[1-41],[128-333]
18916	[1-447]
18917	[1-506]
18918	[1-215]
18919	[1-485]
18920	[1-52]
18921	[1-411]
18922	[1-52]
18923	[1-52]
18924	[1-421]
18925	[1-51]
18926	[1-52]
18927	[182-307]
18928	[1-51]
18929	[1-53]
18930	[1-485]
18931	[1-355]
18932	[1-330]
18933	[120-378]
18934	[1-582]
18935	[1-281]
18936	[60-341]
18937	[194-426]
18938	[1-451]
18939	[1-351]
18940	[1-424]
18941	[1-469]
18942	[1-325]
18943	[1-149]
18944	[1-438]
18945	[39-524]
18946	[73-518]
18947	[85-409]
18948	[1-519]
18949	[1-469]
18950	[1-468]
18951	[1-519]
18952	[1-256]
18953	[1-73],[221-306]
18954	[114-470]
18955	[336-458]
18956	[1-790]
18957	[1-517]
18958	[1-1030]
18959	[1-38],[237-419]
18960	[1-324]
18961	[1-379]
18962	[1-403]
18963	[1-384]
18964	[1-527]
18965	[1-458]
18966	[1-516]
18967	[128-281]
18968	[1-496]
18969	[1-569]
18970	[1-477]
18971	[1-566]
18972	[1-457]
18973	[1-415]
18974	[1-474]
18975	[1-449]
18976	[1-437]
18977	[1-411]
18978	[1-659]
18979	[1-451]
18980	[1-485]
18981	[379-463]
18982	[1-493]
18983	[1-378]
18984	[1-77],[449-507]
18985	[1-114],[168-509]
18986	[1-433]
18987	[1-308]
18988	[1-489]
18989	[1-478]
18990	[1-460]
18991	[1-528]
18992	[1-506]
18993	[1-377]
18994	[1-367]
18995	[1-188]
18996	[1-543]
18997	[1-347]
18998	[1-518]
18999	[204-533]
19000	[1-190]
19001	[1-199]
19002	[1-822]
19003	[1-354]
19004	[1-415]
19005	[1-407]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments	Seq Id No.	Positions of preferred fragments
19006	[1-701]	19053	[1-450]
19007	[1-508]	19054	[1-482]
19008	[1-478]	19055	[176-465]
19009	[1-508]	19056	[1-337]
19010	[1-436]	19057	[1-465]
19011	[1-481]	19058	[1-478]
19012	[1-142],[288-483]	19059	[1-468]
19013	[1-216],[289-448]	19060	[1-132],[170-384]
19014	[1-51],[289-428]	19061	[1-403]
19015	[1-51]	19062	[1-500]
19016	[1-67]	19063	[1-472]
19017	[1-484]	19064	[1-515]
19018	[1-142]	19065	[1-396]
19019	[1-428]	19066	[1-413]
19020	[1-451]	19067	[1-381]
19021	[1-325]	19068	[1-580]
19022	[1-490]	19069	[1-526]
19023	[97-350],[388-509]	19070	[1-501]
19024	[97-350],[388-514]	19071	[1-436]
19025	[1-501]	19072	[1-412]
19026	[1-293]	19073	[1-426]
19027	[1-470]	19074	[1-489]
19028	[1-69],[110-440]	19075	[1-433]
19029	[1-550]	19076	[1-87],[239-465]
19030	[1-470]	19077	[1-518]
19031	[1-531]	19078	[1-423]
19032	[1-505]	19079	[1-387]
19033	[1-252]	19080	[1-586]
19034	[1-253]	19081	[1-507]
19035	[1-447]	19082	[1-468]
19036	[131-368]	19083	[1-481]
19037	[72-516]	19084	[1-429]
19038	[238-426]	19085	[1-474]
19039	[57-580]	19086	[1-192]
19040	[1-309]	19087	[1-516]
19041	[1-70]	19088	[1-471]
19042	[1-424]	19089	[1-550]
19043	[238-295],[419-449]	19090	[1-469]
19044	[1-62]	19091	[1-415]
19045	[1-301]	19092	[1-839]
19046	[1-462]	19093	[1-463]
19047	[1-326]	19094	[1-516]
19048	[1-417]	19095	[1-484]
19049	[1-537]	19096	[1-356]
19050	[1-518]	19097	[1-203]
19051	[1-508]	19098	[1-348]
19052	[1-497]	19099	[1-351]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
19100	[1-184]
19101	[1-528]
19102	[1-444]
19103	[1-439]
19104	[1-556]
19105	[1-422]
19106	[1-503]
19107	[1-168]
19108	[1-548]
19109	[141-515]
19110	[1-473]
19111	[1-452]
19112	[1-480]
19113	[1-394]
19114	[1-354]
19115	[1-612]
19116	[1-484]
19117	[1-493]
19118	[1-387]
19119	[1-449]
19120	[41-456]
19121	[1-203]
19122	[1-439]
19123	[1-445]
19124	[1-427]
19125	[1-448]
19126	[1-406]
19127	[1-514]
19128	[1-469]
19130	[1-517]
19131	[1-458]
19132	[1-136]
19133	[1-500]
19134	[1-429]
19135	[1-682]
19136	[1-484]
19137	[1-142]
19138	[1-554]
19139	[1-466]
19140	[316-440]
19141	[1-355]
19142	[1-400]
19143	[1-196]
19144	[1-249]
19145	[149-327]
19146	[200-465]
19147	[1-480]
19148	[1-124],[253-406]
19149	[1-337]
19150	[1-515]
19151	[1-174]
19152	[1-167],[207-391]
19153	[1-419]
19154	[1-166]
19155	[1-351]
19156	[1-167],[207-389]
19157	[1-167],[207-390]
19158	[208-427]
19159	[1-453]
19160	[1-163],[314-494]
19161	[1-495]
19162	[1-495],[533-623]
19163	[1-505]
19164	[1-435]
19165	[1-497]
19166	[1-150]
19167	[1-369]
19168	[1-207]
19169	[1-144]
19170	[1-362],[391-434]
19171	[1-151]
19172	[1-170]
19173	[1-162]
19174	[1-532]
19175	[1-519]
19176	[1-658]
19177	[1-303]
19178	[1-369]
19179	[1-500]
19180	[1-293]
19181	[78-558]
19182	[1-471]
19183	[1-563]
19184	[326-385]
19186	[1-513]
19187	[1-464]
19188	[1-472]
19189	[1-473]
19190	[1-518]
19191	[1-380]
19192	[1-449]
19193	[1-214]
19194	[1-550]
19195	[1-165]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
19196	[1-444]
19197	[1-130]
19198	[1-298],[353-406]
19199	[1-315]
19200	[1-552]
19201	[1-424]
19202	[1-161]
19203	[1-467]
19204	[1-420]
19205	[1-468]
19206	[1-236]
19208	[1-184]
19209	[1-299]
19210	[1-61]
19211	[1-423]
19212	[1-260]
19213	[86-164]
19214	[1-164]
19215	[1-146]
19216	[1-58]
19217	[1-103]
19218	[1-352]
19220	[1-541]
19221	[1-467]
19222	[1-464]
19223	[1-144],[178-371]
19224	[1-247]
19225	[1-321]
19226	[1-221]
19227	[99-177]
19228	[1-469]
19229	[73-477]
19230	[1-444]
19231	[339-419]
19232	[1-338]
19233	[1-334]
19234	[1-196]
19235	[1-505]
19236	[1-513]
19237	[134-246]
19238	[1-467]
19239	[1-401]
19240	[1-476]
19241	[1-369]
19242	[1-85]
19244	[1-453]
19245	[1-136]

Seq Id No.	Positions of preferred fragments
19246	[1-459]
19247	[1-522]
19248	[1-492]
19249	[1-490]
19250	[1-44],[294-477]
19251	[1-307]
19252	[241-519]
19253	[1-480]
19255	[1-419]
19256	[1-375]
19257	[1-177]
19258	[1-287]
19259	[1-266]
19260	[1-58]
19261	[1-204]
19262	[1-329]
19263	[1-72]
19264	[1-348]
19265	[1-439]
19266	[1-330]
19267	[1-319]
19268	[1-313]
19269	[1-160]
19270	[1-90]
19271	[1-110]
19272	[1-132]
19273	[1-101]
19274	[1-265]
19275	[1-325]
19276	[1-171]
19277	[1-90]
19278	[1-182]
19279	[1-59]
19280	[1-353]
19281	[1-107]
19282	[1-377]
19283	[1-270]
19284	[1-348]
19285	[1-338]
19286	[1-63]
19288	[1-101]
19289	[1-108]
19290	[1-101]
19291	[1-108]
19292	[1-496]
19293	[1-108]
19294	[1-63]

TABLE IVb
(Novelty:100%)

Seq Id No.	Positions of preferred fragments
19295	[1-108]
19296	[1-108]
19298	[1-108]
19299	[1-108]
19300	[1-108]
19301	[1-80]
19302	[1-101]
19303	[1-489]
19304	[1-108]
19305	[1-81]
19306	[1-29]
19307	[35-81]
19308	[1-205]
19309	[1-102]
19311	[1-108]
19312	[1-108]
19313	[1-109]
19314	[1-385]
19315	[1-101]
19316	[1-108]
19317	[1-169]
19318	[1-63]
19319	[1-133]
19320	[35-80]
19321	[1-108]
19322	[1-119]
19323	[1-101]
19325	[1-390]
19326	[1-168]
19327	[1-387]
19328	[1-169]
19329	[1-169]
19330	[1-108]
19331	[1-101]
19332	[1-404]
19334	[1-499]
19335	[1-63]

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
24	H:1
25	C:1
26	B:6
27	K:1
28	B:3 C:1
29	F:1
30	F:1 K:1
31	C:1
32	C:1 F:1
33	I:4
34	A:1
35	C:1
36	A:1 B:1
37	F:1
38	F:39 K:20
39	K:3
40	D:1 K:4
41	A:1
42	C:4 H:2
43	F:21 K:7
44	H:6
45	I:13
46	A:1
47	E:1
48	A:2 B:1
49	A:1 F:1
50	H:1
51	B:4
52	I:1
53	F:1
54	D:2
55	C:1 H:4
56	F:6
57	F:1
58	H:1
59	B:1
60	B:1
61	F:1
62	F:1
63	H:3
64	F:3
65	F:11 K:5
66	H:1
67	K:2
68	F:2
69	J:1
70	B:2

Seq Id No.	Tissue distribution
71	I:3
72	D:9
73	H:1
74	B:3
75	B:1
76	K:2
77	I:1
78	A:3 C:8 D:1
79	I:1
80	K:1
81	H:1
82	F:1 K:4
83	A:4
84	K:1
85	K:1
86	I:1
87	D:1 F:2
88	A:2
89	B:1
90	C:5
91	A:9 B:8 D:1 H:4 I:8 K:1
92	A:1 B:5 C:5 D:3 F:3 K:1
93	H:1
94	A:2
95	H:2
96	H:1
97	A:14
98	B:1
99	B:4
100	B:2
101	C:3
102	C:1
103	B:2
104	C:1
105	C:1
106	I:1
107	C:1
108	K:2
109	F:1 K:1
110	K:2
111	A:1 C:10 K:1
112	H:3
113	I:1
114	A:9
115	C:3
116	A:1
117	C:1 I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
118	A:6
119	C:5
120	H:4
121	F:1
122	H:1
123	K:2
124	F:1
125	K:3
126	A:1
127	H:2
128	A:2 B:13
129	A:1
130	A:1
131	H:1
132	A:1 H:1
133	F:1
134	A:5
135	A:50 B:35 C:24 D:12 F:4 H:29 J:1 K:1
136	C:2
137	F:6 K:2
138	F:2
139	A:1 F:7 K:3
140	A:4 B:5
141	K:1
142	K:1
143	K:1
144	F:4
145	F:1
146	D:1 F:1
147	A:1
148	C:1
149	A:1 K:1
150	H:2
151	F:1 K:3
152	A:4
153	B:5 H:1
154	K:1
155	F:5 K:2
156	B:1
157	K:1
158	A:5
159	C:34
160	C:1 K:1
161	B:1
162	C:1 F:1
163	A:1
164	A:1
165	K:7
166	A:1
167	F:2 K:2
168	K:1
169	B:1
170	B:2 D:1
171	D:1
172	H:3
173	F:11 K:9
174	A:5 H:1
175	A:2 D:2
176	A:8
177	A:1
178	H:3
179	F:6 K:1
180	A:5
181	A:5 B:3 C:128 H:15
182	C:9
183	E:1
184	F:1
185	I:1 K:1
186	B:2
187	A:1 C:1 F:1
188	A:1
189	B:1
190	A:6
191	I:1
192	K:1
193	A:1
194	A:1
195	A:1
196	C:1
197	A:1
198	A:1
199	H:3
200	A:6 B:10 C:7 D:3 F:8 H:3 K:14
201	C:1
202	K:1
203	H:2
204	I:2
205	K:1
206	I:4
207	A:1 F:1 H:1
208	A:1
209	A:2 H:1 K:2
210	I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
211	K:1
212	K:2
213	K:1
214	K:1
215	D:1
216	A:1
217	C:2 H:10
218	I:1
219	I:1
220	A:2
221	H:1
222	B:1
223	B:1
224	B:3
225	K:2
226	H:1
227	F:1 K:14
228	B:3
229	A:4
230	C:1
231	H:2
232	A:1 I:10
233	F:1
234	A:1
235	I:5
236	F:1 K:1
237	F:1 K:1
238	F:6 K:1
239	H:3 I:1
240	K:1
241	A:2
242	I:2
243	J:18
244	A:1
245	A:1
246	B:1
247	F:1
248	B:3
249	C:3
250	K:1
251	F:1
252	F:2
253	F:2 K:4
254	A:2
255	D:1
256	B:1
257	A:1
258	A:1
259	H:2
260	F:3 K:3
261	F:2 K:6
262	C:1
263	A:6 F:1
264	A:5 C:6 I:1
265	C:8
266	C:3
267	B:1
268	F:15 K:3
269	D:1
270	D:1
271	A:1 B:3
272	C:1 H:3
273	I:2
274	D:1
275	C:2 H:4 K:1
276	A:1
277	H:6
278	A:1
279	F:3
280	A:4 C:1 F:1 J:1
281	K:1
282	A:1
283	C:2 I:1
284	F:10
285	F:2
286	F:1
287	F:3 K:2
288	K:1
289	F:1
290	F:1
291	H:1
292	K:3
293	A:2 F:1
294	F:1
295	A:1
296	K:1
297	A:2
298	C:8
299	F:1
300	A:2
301	I:3
302	F:1 K:2
303	B:1 F:1 I:1
304	A:31 B:6 F:3 K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
305	H:1 I:6
306	A:2 B:3
307	K:1
308	D:1
309	A:1
310	K:1
311	C:1
312	K:1
313	A:1 C:6
314	K:1
315	A:1
316	A:1
317	D:1
318	A:11
319	F:2
320	H:3
321	K:1
322	K:1
323	K:1
324	A:4
325	H:1
326	K:1
327	A:1
328	A:7 C:1
329	K:1
330	F:2 I:1
331	K:1
332	K:1
333	I:1
334	H:1
335	F:1
336	B:1
337	H:2
338	B:3 H:1
339	A:1
340	K:1
341	B:5
342	A:1 K:1
343	A:1
344	H:2 I:1
345	K:1
346	F:8
347	D:1 K:2
348	A:1 B:1
349	B:3 H:2
350	F:1
351	B:1

Seq Id No.	Tissue distribution
352	A:1
353	D:1
354	A:1
355	B:1
356	F:1 K:6
357	B:1
358	A:1
359	H:1
360	D:1
361	K:5
362	A:1
363	A:1
364	F:8 K:1
365	F:6 K:25
366	A:1
367	D:1
368	H:3
369	C:1
370	B:1 C:2 D:1 H:6
371	B:1
372	B:1
373	K:1
374	H:1
375	K:1
376	F:2 K:2
377	I:1
378	F:1
379	A:1
380	K:2
381	H:1 K:1
382	H:1
383	B:4
384	F:1
385	C:1
386	C:1
387	F:1 K:7
388	C:1
389	C:1
390	B:1
391	F:1
392	I:1
393	C:1
394	C:1
395	I:1
396	H:7
397	I:1
398	I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
399	I:1
400	F:1
401	B:1
402	B:1
403	C:1
404	C:1
405	B:1
406	I:1
407	B:2
408	B:1
409	I:1
410	B:1
411	F:1
412	F:1
413	B:1
414	F:1
415	I:1
416	F:1
417	C:1
418	F:2 K:2
419	I:1
420	D:1
421	D:1
422	H:1
423	D:1
424	K:1
425	D:1
426	F:17 K:3
427	I:3
428	D:1
429	I:1
430	D:1
431	D:1
432	D:1
433	F:1
434	D:1
435	B:1
436	D:1
437	D:1
438	F:1
439	K:4
440	K:4
441	F:1
442	B:1
443	D:1
444	D:1
445	D:1
446	C:1
447	D:1
448	K:1
449	H:1 I:3
450	C:1
451	F:2
452	D:1
453	B:1
454	B:1
455	D:1
456	D:1
457	D:1
458	D:1
459	A:6
460	C:2
461	F:1
462	F:1
463	D:1
464	F:1
465	F:1
466	F:1
467	D:2
468	F:1
469	A:1
470	F:1 K:1
471	F:1
472	F:1 K:3
473	I:4
474	A:1
475	K:1
476	A:1
477	C:1
478	A:1
479	A:1
480	B:3
481	A:1
482	F:1
483	D:1
484	K:1
485	K:1
486	A:1
487	A:1
488	A:1
489	A:1
490	A:1
491	D:1
492	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
493	A:1
494	K:1
495	D:1
496	B:1
497	A:1
498	A:1
499	A:1
500	B:1
501	K:1
502	A:1
503	A:1
504	A:2
505	B:1
506	A:1
507	A:1
508	A:1
509	B:1
510	D:1
511	A:1
512	K:1
513	F:1 K:1
514	A:1
515	K:1
516	K:1
517	A:1
518	B:1
519	D:1
520	A:1
521	B:3
522	K:1
523	F:1
524	K:1
525	A:1
526	K:1
527	K:1
528	F:1
529	A:1
530	F:1
531	A:1
532	K:1
533	A:1
534	A:1
535	K:1
536	F:1
537	A:1
538	A:1
539	K:1

Seq Id No.	Tissue distribution
540	A:1
541	A:1
542	K:1
543	A:1
544	K:1
545	A:1
546	A:1
547	A:1
548	K:1
549	A:1
550	A:1
551	A:1
552	A:1
553	K:1
554	A:1
555	A:1
556	K:1
557	A:1
558	A:1
559	K:1
560	B:1
561	A:1 F:2 H:1
562	K:4
563	K:1
564	B:3
565	B:1
566	F:30 K:14
567	K:1
568	A:1
569	K:1
570	F:1 K:1
571	A:4 K:1
572	F:1
573	H:3
574	A:2 H:1
575	H:2
576	K:1
577	B:1
578	C:1 F:9
579	F:5 K:22
580	B:1
581	C:5
582	A:5 C:20 H:1 K:1
583	K:1
584	D:2
585	H:2
586	F:4 K:4

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
587	K:1
588	A:2
589	A:1 D:1
590	H:1
591	F:3 K:2
592	K:1
593	A:3
594	K:1
595	B:1
596	H:1
597	F:2 K:3
598	B:1
599	K:2
600	K:1
601	K:1
602	C:1
603	K:1
604	K:1
605	H:1
606	A:1 F:1
607	K:1
608	A:1
609	A:1
610	A:1
611	I:4
612	K:1
613	C:1 F:1 H:14
614	A:1
615	K:1
616	A:1
617	K:2
618	H:1
619	H:1
620	H:1
621	A:1
622	A:2
623	H:1
624	H:2
625	A:2
626	B:1 C:1
627	A:5 B:2
628	K:1
629	K:1
630	K:2
631	K:1
632	C:4
633	A:11

Seq Id No.	Tissue distribution
634	A:3
635	K:1
636	A:2
637	H:3
638	F:1
639	F:1
640	F:1
641	K:1
642	A:6 F:9 K:1
643	B:1
644	B:1 C:1
645	F:8 K:1
646	F:8 K:3
647	A:1
648	F:1
649	A:7
650	F:5 K:1
651	C:10
652	I:4
653	F:1
654	C:1
655	A:13 B:1
656	C:1
657	K:4
658	F:1
659	K:1
660	K:1
661	I:1 K:1
662	B:4 H:2 K:1
663	H:2
664	K:1
665	F:1
666	K:2
667	A:3
668	F:1
669	A:6
670	F:1
671	C:3 K:1
672	H:3
673	A:1
674	F:7 K:1
675	F:1
676	K:1
677	A:3
678	H:1
679	A:1
680	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
681	H:1
682	F:4
683	F:2 K:19
684	K:1
685	B:1
686	C:35 I:2
687	A:3
688	B:2
689	A:1 C:1 H:2
690	K:2
691	H:1
692	A:3
693	B:1
694	C:7
695	C:1
696	B:1
697	A:2 B:11 C:9 D:2 E:1 F:2 H:4 I:1
698	K:1
699	H:1
700	K:1
701	A:1
702	B:1 F:1
703	F:1 K:1
704	B:1 F:3
705	F:10 K:8
706	B:2 C:8 H:4 K:3
707	F:1
708	B:1
709	K:1
710	D:2
711	K:1
712	A:4
713	B:1
714	B:3 C:1 F:4 K:1
715	F:24 K:7
716	I:1
717	H:1
718	A:4
719	A:1 B:4 C:1
720	F:2 H:1 I:1 K:1
721	A:2
722	K:5
723	B:1
724	D:1
725	B:3
726	F:2
727	H:3
728	A:1 C:1
729	K:1
730	A:2 I:1
731	A:2 B:2 C:9 D:2 F:1 H:2 K:2
732	H:3
733	H:1
734	K:1
735	K:1
736	C:1
737	K:1
738	B:1
739	A:2 B:1 C:2 D:4
740	B:1 J:1
741	J:1
742	B:7 C:2 H:2
743	C:1
744	A:1
745	K:1
746	F:1
747	F:1
748	K:1
749	F:1
750	F:1
751	F:1
752	B:1
753	B:2
754	F:1 H:1 I:2
755	B:1
756	H:1
757	A:1 C:1
758	H:3
759	K:1
760	F:1 K:1
761	K:1
762	H:1
763	H:1
764	C:3
765	H:1
766	B:1
767	C:1
768	A:2 B:3 C:4 E:1 I:1 K:3
769	A:29
770	H:1
771	C:2 H:1
772	H:1
773	I:3
774	A:8

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
775	F:1 K:4
776	B:1
777	B:6 C:1 H:2
778	B:2 C:1 D:1 F:9 H:2 K:15
779	A:1
780	B:4 C:11 D:1 H:2
781	F:1 K:7
782	B:1
783	A:1 D:1
784	K:1
785	K:1
786	B:2 D:1 K:1
787	I:2
788	F:10 K:8
789	K:1
790	A:13 B:17 C:30 D:10 F:9 H:75 I:1 J:1 K:13
791	F:1
792	F:1 K:1
793	C:3
794	H:1
795	C:1 H:11
796	A:2
797	A:1 B:8 C:9 D:1 H:4 J:2
798	K:5
799	H:1
800	A:1 F:5 H:1 K:2
801	K:1
802	K:2
803	F:3 K:2
804	F:3 K:1
805	K:3
806	C:1 H:1
807	K:1
808	H:1
809	C:1 D:2
810	B:1
811	K:3
812	K:1
813	H:2
814	K:1
815	A:5 B:3
816	H:1
817	B:9
818	A:3 B:6 C:21 D:1 F:1 H:2 J:1 K:1
819	A:4 B:6 C:26 D:2 F:2 H:4 J:1 K:1
820	H:4

Seq Id No.	Tissue distribution
821	H:1
822	K:1
823	H:1
824	K:2
825	H:1
826	A:1 B:1
827	H:4
828	B:1
829	K:1
830	B:1
831	A:1
832	C:8 J:1
833	D:1
834	B:2 F:1
835	K:1
836	C:2
837	K:1
838	K:1
839	C:1 F:3 K:3
840	I:1
841	H:1
842	D:1 H:1
843	D:1 F:1
844	B:1 F:1
845	B:1
846	F:8 K:7
847	A:1
848	A:1 H:2 K:1
849	F:9 K:1
850	H:2
851	F:3
852	H:2
853	K:1
854	B:2 H:2 I:1
855	F:1 K:4
856	F:1 K:4
857	F:2 K:1
858	F:1
859	F:2
860	F:1 K:1
861	F:11 K:6
862	C:6 F:1
863	H:1
864	A:1 B:5
865	K:7
866	K:1
867	A:13

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
868	A:13
869	K:1
870	K:1
871	B:3
872	K:1
873	A:8 B:34 C:14 D:2 H:5
874	C:1
875	K:1
876	K:1
877	H:1
878	H:4
879	F:1
880	A:5
881	A:26 B:5 C:4 D:1 F:1 H:13 I:1
882	A:2
883	A:3 H:3
884	H:1
885	A:5
886	K:4
887	F:1 K:1
888	A:1 H:3
889	D:1
890	F:3
891	H:1
892	F:5 K:2
893	I:2
894	D:2 F:3 H:2 K:3
895	K:1
896	K:1
897	K:2
898	H:4
899	J:1
900	H:1
901	H:1
902	B:3
903	K:1
904	F:4
905	F:2 K:7
906	K:2
907	A:5
908	F:1 K:1
909	A:15 B:11 C:7 H:4 K:1
910	A:2 B:5 C:2 H:2 K:1
911	A:3 K:2
912	H:1
913	B:2 H:2
914	A:1

Seq Id No.	Tissue distribution
915	H:3
916	C:1
917	H:2
918	C:8
919	C:12
920	H:1
921	B:2 C:1
922	K:1
923	B:2
924	F:1 K:1
925	F:6 K:4
926	K:3
927	K:1
928	K:1
929	A:1 B:3 D:1 K:3
930	I:2
931	H:2 I:1
932	B:3
933	A:1 B:2 K:2
934	C:1
935	H:1
936	F:1 K:1
937	A:12 B:6 C:10 F:1 H:2
938	H:4
939	C:21
940	C:21
941	K:2
942	K:2
943	F:2 K:1
944	H:1 I:1
945	F:7 K:2
946	B:3
947	C:1
948	B:1
949	F:11 K:6
950	H:3
951	F:2 K:1
952	F:3
953	B:1 F:1 K:3
954	I:2
955	D:1 F:1
956	F:1 H:1 K:1
957	A:1 B:2 F:3 H:1
958	A:2
959	F:5 K:5
960	K:3
961	F:8 K:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
962	I:3
963	B:1 H:1
964	K:1
965	C:1
966	C:15
967	B:1
968	A:9 D:1
969	F:4
970	K:1
971	D:1 H:1
972	A:5 F:1
973	A:4 K:3
974	C:2
975	H:2
976	F:1 I:3 K:1
977	F:2 K:4
978	A:8
979	B:1 F:1 K:4
980	A:1 C:1
981	H:5
982	H:1
983	H:1
984	F:4
985	K:2
986	K:1
987	H:2
988	K:4
989	B:6 K:1
990	K:1
991	K:1
992	A:1 D:1
993	F:7 K:5
994	F:6 K:21
995	H:1
996	H:1
997	H:1
998	C:2
999	H:1
1000	H:1
1001	B:1
1002	C:6 D:1 H:1 J:6
1003	F:13 K:1
1004	F:1 K:1
1005	A:1 B:1
1006	B:4
1007	A:1
1008	A:1

Seq Id No.	Tissue distribution
1009	A:1
1010	A:1
1011	A:1
1012	A:1
1013	A:1
1014	B:1
1015	B:1
1016	B:1
1017	B:1
1018	B:1
1019	B:1
1020	A:1
1021	A:1
1022	A:1
1023	A:1
1024	B:1
1025	A:1
1026	A:1
1027	B:1
1028	A:1
1029	A:1
1030	B:2 H:7 I:1
1031	B:1 C:1 H:8 I:8
1032	K:3
1033	B:3
1034	A:1
1035	K:2
1036	K:3
1037	K:3
1038	F:2
1039	H:1
1040	C:9
1041	K:1
1042	I:2
1043	A:1 C:1 H:1 I:2
1044	B:2
1045	A:2
1046	A:1
1047	K:1
1048	C:1 H:1 I:1
1049	F:1
1050	H:1
1051	F:13 K:4
1052	H:1
1053	D:1
1054	F:7 K:1
1055	H:7

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1056	F:3 K:2
1057	H:1
1058	K:3
1059	B:3
1060	B:1
1061	C:1 H:1
1062	F:4 K:11
1063	K:1
1064	K:1
1065	F:1 K:2
1066	K:1
1067	K:1
1068	K:1
1069	F:1
1070	K:1
1071	F:2 K:15
1072	K:1
1073	K:1
1074	A:3 H:7
1075	B:3
1076	B:2
1077	K:1
1078	K:2
1079	A:14 B:1
1080	K:1
1081	F:2 K:1
1082	H:5
1083	A:2 B:3 H:1
1084	H:1 K:1
1085	A:3 B:1 H:1 K:1
1086	A:1
1087	B:1
1088	A:10 B:21 C:18 D:11 E:2 F:3 H:12 I:5 J:2
1089	A:2 B:28 C:5 F:1 I:2 K:3
1090	C:15 J:2
1091	F:1 K:24
1092	C:2
1093	K:4
1094	A:1 F:6 K:11
1095	H:1
1096	J:1
1097	K:6
1098	K:1
1099	K:1
1100	K:1
1101	K:1
1102	H:1
1103	F:1
1104	F:1
1105	K:1
1106	K:1
1107	A:5 F:2
1108	K:1
1109	K:2
1110	K:1
1111	H:1
1112	H:1
1113	A:6
1114	K:1
1115	H:1
1116	K:1
1117	K:1
1118	A:1
1119	H:2
1120	D:1 F:4
1121	H:1
1122	D:1 H:1
1123	F:1 K:2
1124	A:4 B:1 C:6 F:7 H:2 K:9
1125	F:5 K:1
1126	K:1
1127	A:1
1128	F:1 K:1
1129	H:1
1130	F:1
1131	D:1
1132	K:2
1133	F:1
1134	F:1 K:2
1135	A:3 I:5
1136	K:1
1137	B:2 C:1 H:1
1138	B:1
1139	H:1
1140	H:1 K:1
1141	A:5
1142	A:1
1143	D:1
1144	F:4 K:25
1145	B:2
1146	F:1 K:1
1147	D:2
1148	B:1 I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1149	B:4
1150	K:1
1151	A:2 H:3
1152	H:1
1153	K:1
1154	A:1
1155	H:1
1156	A:4
1157	K:6
1158	C:4 H:1
1159	K:1
1160	B:1 C:1 D:1 K:1
1161	B:1
1162	D:1
1163	C:1
1164	A:1
1165	B:1
1166	B:1
1167	J:1
1168	H:1
1169	H:1
1170	C:17
1171	A:1
1172	J:53
1173	F:2 K:2
1174	F:8 K:1
1175	H:2
1176	B:1
1177	F:2 K:1
1178	F:4
1179	F:7 K:2
1180	F:5 K:39
1181	A:2 F:2 H:1 K:13
1182	K:6
1183	H:1
1184	F:1
1185	A:1 B:3 C:12 D:1 F:3 H:3 I:1 K:12
1186	A:17 B:42 C:27 D:11 F:5 H:29 I:2 J:11 K:2
1187	A:1 B:3 C:1 H:1
1188	C:4 F:1
1189	C:4 K:1
1190	B:9 K:1
1191	F:5 K:2
1192	K:2
1193	F:1 K:1
1194	B:1
1195	F:2 K:2
1196	F:6 H:2 K:1
1197	A:1 B:2 H:2
1198	H:2
1199	H:1
1200	F:1 K:2
1201	H:1
1202	K:2
1203	F:4 K:19
1204	F:4 K:16
1205	K:1
1206	C:1
1207	A:10 B:3
1208	B:6 C:1
1209	B:8 C:1
1210	B:1 C:2 F:33 H:1 K:19
1211	K:1
1212	F:1
1213	H:1
1214	K:2
1215	C:12 I:3
1216	K:2
1217	B:2 C:1
1218	F:1
1219	F:1
1220	A:1
1221	C:3
1222	K:1
1223	C:1
1224	I:1
1225	H:1
1226	J:1
1227	B:1
1228	F:5 K:1
1229	K:3
1230	B:2
1231	F:7
1232	H:1
1233	F:1 K:1
1234	A:1 K:1
1235	F:1
1236	A:6 B:1 C:1 D:2
1237	A:2 C:17 D:1
1238	F:2 K:4
1239	A:5
1240	F:1 K:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1241	K:1
1242	H:1
1243	A:2 B:3
1244	K:1
1245	B:4 C:27
1246	C:4
1247	B:3
1248	A:3 B:1 D:1 K:3
1249	H:1
1250	F:31 K:11
1251	A:18 B:24 C:32 F:43 H:49 I:32 J:1 K:17
1252	A:4 B:4 C:7 F:21 H:24 I:9 K:7
1253	A:2 B:2 C:3 F:8 H:7 I:2 K:4
1254	A:1
1255	C:1
1256	C:1
1257	A:1
1258	F:3 K:2
1259	F:4 K:3
1260	A:2 B:1 C:1 D:3 H:1 K:5
1261	F:36 K:15
1262	K:3
1263	D:1
1264	H:6
1265	A:1 F:1
1266	H:1
1267	F:2 K:6
1268	F:8 K:8
1269	K:2
1270	F:1 K:2
1271	F:1
1272	F:1
1273	K:2
1274	K:1
1275	A:7
1276	F:3
1277	K:2
1278	H:1
1279	B:7
1280	B:1 C:6 H:1
1281	B:3
1282	F:4 K:5
1283	F:9 K:5
1284	F:2 K:1
1285	J:1
1286	F:6
1287	C:5
1288	C:1
1289	C:3 H:1
1290	K:5
1291	K:1
1292	B:1
1293	K:2
1294	H:1
1295	C:1 H:3 I:4
1296	A:6 H:3 I:3
1297	H:1
1298	A:1 B:2 F:1
1299	B:1 C:1
1300	D:1 F:3 H:1
1301	A:1 F:7 H:6 I:2 K:2
1302	H:4 I:10
1303	B:5 D:1 H:1
1304	F:1 K:3
1305	I:2
1306	A:1 B:1 H:2
1307	F:3
1308	A:2 H:1 I:2
1309	B:1
1310	C:1
1311	B:2
1312	F:12 H:2 K:12
1313	F:1 K:1
1314	A:1 D:1 K:1
1315	K:1
1316	H:1
1317	A:1
1318	C:2
1319	H:4
1320	K:1
1321	C:1 D:1 H:1
1322	F:1
1323	F:1
1324	K:1
1325	K:1
1326	A:9 K:1
1327	B:3 C:1 H:1
1328	F:1 K:1
1329	F:4 K:2
1330	K:2
1331	H:1
1332	H:1
1333	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1334	H:1
1335	H:1
1336	H:1
1337	F:2
1338	H:1
1339	H:6 I:1
1340	D:1
1341	D:1
1342	D:1
1343	C:48 J:1
1344	D:2
1345	B:59 C:47 D:2 H:20 I:2 J:3
1346	B:17 C:22 D:2 H:14 J:4 K:1
1347	D:3 F:3 H:1 K:1
1348	D:3 F:2
1349	C:1
1350	I:1
1351	K:1
1352	B:1
1353	D:1
1354	H:1
1355	F:1 K:6
1356	K:3
1357	H:4
1358	C:13
1359	D:2
1360	F:4
1361	K:2
1362	F:24 K:8
1363	F:2 K:2
1364	F:1 K:1
1365	F:1 K:3
1366	I:18
1367	C:2 D:1 I:1
1368	C:2
1369	D:1 H:2
1370	H:1
1371	A:2
1372	K:1
1373	C:1
1374	K:1
1375	F:1 K:2
1376	A:2
1377	D:6 F:21
1378	K:2
1379	F:3
1380	H:1
1381	D:1
1382	K:2
1383	K:1
1384	F:2 K:6
1385	H:1
1386	C:1 D:3 F:2
1387	A:1 C:1 D:1 K:2
1388	C:4
1389	K:4
1390	A:1
1391	K:4
1392	H:3
1393	B:2
1394	B:1
1395	H:2
1396	K:1
1397	F:7 K:1
1398	C:5 H:1
1399	F:1
1400	H:1
1401	H:1
1402	F:2
1403	B:2 H:3
1404	D:2
1405	H:5
1406	K:4
1407	F:5 K:1
1408	A:3 B:8 C:15
1409	C:32 H:1
1410	C:2
1411	K:1
1412	B:1 H:3
1413	H:1
1414	D:1
1415	A:75 B:75 C:94 D:36 E:1 F:13 H:33 I:1 J:1 K:22
1416	A:2 C:128 H:5
1417	J:2
1418	A:2 B:3 C:1
1419	C:30 J:2 K:2
1420	I:4
1421	B:1 F:3 K:5
1422	K:2
1423	D:1
1424	H:1
1425	A:2
1426	A:1 B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1427	H:1
1428	A:1
1429	K:1
1430	I:4
1431	K:2
1432	B:1 K:4
1433	C:1
1434	F:3
1435	C:9
1436	K:1
1437	F:1 K:2
1438	K:1
1439	H:1
1440	A:1 H:1
1441	F:1
1442	B:1
1443	K:1
1444	F:1
1445	B:1
1446	F:3 K:1
1447	K:2
1448	K:2
1449	B:1
1450	B:1
1451	B:1
1452	B:1
1453	F:3
1454	C:1 D:1 H:1
1455	F:3 K:4
1456	B:1
1457	B:1
1458	A:1 H:1
1459	B:1
1460	F:1
1461	F:2 K:3
1462	H:2
1463	C:2 K:1
1464	B:1
1465	A:1 B:5 C:1 F:3 H:2
1466	A:2
1467	D:1
1468	K:2
1469	K:1
1470	A:3
1471	F:4 K:1
1472	A:5 D:4
1473	H:2

Seq Id No.	Tissue distribution
1474	D:1
1475	A:1
1476	D:1
1477	C:2
1478	A:3 D:4
1479	K:1
1480	A:10 H:1
1481	A:1
1482	A:1
1483	K:12
1484	C:3
1485	A:2 B:9
1486	B:1
1487	A:2 B:1 C:5
1488	B:5
1489	H:2
1490	F:2 K:2
1491	F:2
1492	D:1
1493	F:1 K:1
1494	A:1
1495	F:9 H:1 K:1
1496	B:3
1497	A:10
1498	K:2
1499	K:1
1500	F:1
1501	F:1
1502	B:2
1503	C:1
1504	C:1
1505	A:1
1506	K:1
1507	D:1
1508	B:1
1509	D:1
1510	C:1
1511	K:1
1512	K:1
1513	I:4
1514	H:1
1515	H:3
1516	C:36
1517	H:3 I:1 K:1
1518	B:1
1519	A:1 C:18 D:1
1520	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1521	H:5
1522	F:1 H:15
1523	A:1
1524	A:3
1525	D:3
1526	A:12 F:1 H:12
1527	B:3
1528	D:1
1529	J:1
1530	F:1 J:25 K:1
1531	B:1
1532	D:1 H:1
1533	I:2
1534	A:2
1535	A:1 B:1
1536	B:1 H:1
1537	F:1
1538	K:2
1539	C:3
1540	A:4
1541	K:1
1542	B:1
1543	F:3 K:4
1544	K:1
1545	H:1
1546	C:1 D:2 H:4 K:6
1547	H:1
1548	A:2
1549	I:1
1550	H:1
1551	B:3
1552	A:26 B:8 D:7 F:3 H:3 K:1
1553	H:14
1554	H:1
1555	K:3
1556	H:1
1557	A:3
1558	C:2
1559	C:1
1560	H:1
1561	F:1
1562	F:18 K:3
1563	A:15 B:5 C:56 D:3 F:1 H:6 K:2
1564	A:15 B:5 C:50 D:3 F:1 H:6 K:2
1565	A:1
1566	C:1
1567	D:4
1568	A:1
1569	K:7
1570	F:1 K:2
1571	A:2
1572	C:1
1573	A:1
1574	C:2
1575	C:2
1576	H:1
1577	D:1
1578	H:3
1579	D:1
1580	K:8
1581	K:1
1582	F:1 K:1
1583	H:1
1584	F:1
1585	B:2
1586	B:2
1587	C:3 H:1
1588	F:2 H:1
1589	H:1
1590	C:1
1591	A:1 B:1 C:12 H:1
1592	A:1 C:23 H:1
1593	F:2
1594	F:1 K:3
1595	K:1
1596	A:12 B:29 C:22 F:38 H:20 I:9 K:12
1597	K:1
1598	F:1
1599	D:1 F:1
1600	H:3 I:3
1601	B:2
1602	B:7
1603	B:9 C:1
1604	D:1 K:2
1605	A:1
1606	B:3 C:52 D:2 H:1
1607	A:3
1608	A:1
1609	H:1
1610	F:1 K:2
1611	H:2
1612	H:1
1613	B:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1614	D:1
1615	C:15
1616	C:4
1617	K:3
1618	H:1
1619	K:1
1620	A:2
1621	A:1 C:1
1622	A:2 C:6
1623	K:1
1624	A:4
1625	F:7 K:1
1626	B:2
1627	B:4
1628	B:1
1629	B:2
1630	K:2
1631	A:2
1632	A:22 H:2 I:3
1633	K:1
1634	A:2
1635	A:19 H:3 I:3
1636	H:1
1637	B:1
1638	A:1 D:1
1639	K:1
1640	F:2
1641	F:1
1642	C:2
1643	F:4 K:20
1644	H:1
1645	H:1
1646	C:9 J:1
1647	H:9
1648	I:1
1649	C:2 D:1 F:11 H:5 K:31
1650	H:3
1651	D:1
1652	C:7
1653	B:4
1654	F:4 K:1
1655	F:3 K:1
1656	A:1
1657	F:1
1658	A:3 B:2 F:1 I:3
1659	A:1 B:4 C:3 D:1 K:1
1660	K:3
1661	K:1
1662	H:1
1663	K:2
1664	F:2 K:12
1665	A:2
1666	F:1 K:6
1667	K:4
1668	A:1
1669	F:10 K:36
1670	K:2
1671	K:6
1672	K:4
1673	H:1
1674	A:1
1675	F:1
1676	K:1
1677	F:18 K:22
1678	C:8
1679	K:1
1680	F:4 K:4
1681	K:1
1682	B:1 K:1
1683	C:21 J:1
1684	K:1
1685	K:2
1686	K:1
1687	F:2
1688	H:1
1689	D:1
1690	D:1
1691	H:1
1692	K:1
1693	K:1
1694	H:1
1695	K:1
1696	F:2
1697	K:1
1698	K:1
1699	H:1
1700	K:1
1701	A:1
1702	B:1
1703	K:1
1704	K:2
1705	F:14 K:3
1706	K:2
1707	A:1 C:1 D:2 H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1708	K:1
1709	H:2
1710	B:1
1711	A:3 C:4 D:2 F:1 H:1
1712	A:1
1713	A:1
1714	J:3
1715	B:1
1716	F:1
1717	F:3 K:1
1718	B:1 F:1
1719	B:2 C:8
1720	H:2
1721	F:4
1722	K:1
1723	K:9
1724	K:1
1725	K:1
1726	A:2
1727	F:2
1728	H:1
1729	F:1
1730	A:1
1731	C:1
1732	I:1
1733	C:8 J:7
1734	K:3
1735	F:1
1736	F:3 K:3
1737	K:5
1738	F:2 K:1
1739	D:1
1740	F:3 K:10
1741	K:3
1742	A:1
1743	A:4
1744	K:2
1745	K:2
1746	A:1
1747	C:1
1748	H:1
1749	F:1
1750	A:68
1751	H:1
1752	A:1
1753	H:1
1754	A:3

Seq Id No.	Tissue distribution
1755	A:2
1756	A:1
1757	K:2
1758	K:2
1759	B:2 I:1
1760	A:2 B:1 K:2
1761	B:2
1762	I:1
1763	F:1
1764	I:1
1765	H:3
1766	I:1
1767	I:1
1768	A:1
1769	D:1
1770	H:3
1771	K:2
1772	H:5
1773	A:1 J:2
1774	H:1
1775	D:1 H:6 J:133
1776	J:1
1777	B:2
1778	K:1
1779	J:1
1780	A:1
1781	K:1
1782	I:2
1783	A:1 F:1 K:6
1784	A:1
1785	K:1
1786	K:2
1787	F:18 K:8
1788	C:3
1789	B:1
1790	B:1
1791	C:15 J:1
1792	F:18 K:1
1793	K:1
1794	F:3
1795	K:5
1796	D:1 H:8
1797	K:3
1798	D:1
1799	B:3
1800	K:1
1801	I:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1802	C:3
1803	A:30 B:5 F:1 I:6
1804	H:1
1805	K:1
1806	A:8 B:7 C:1 D:1 F:3 H:8 I:1 K:12
1807	B:1
1808	A:4 B:3 C:3 F:1 H:31
1809	K:1
1810	J:1
1811	K:1
1812	H:3
1813	K:1
1814	K:2
1815	B:2
1816	B:1
1817	H:1
1818	F:1 K:1
1819	B:8 C:10 D:1 H:4 J:2
1820	F:2
1821	D:1
1822	A:1 F:1 I:4 K:4
1823	A:1
1824	K:2
1825	H:1
1826	H:1
1827	A:1 B:2 C:3 I:2
1828	F:1 K:2
1829	K:1
1830	I:2
1831	A:1
1832	A:1
1833	H:2
1834	D:1
1835	C:5 H:2 I:3
1836	A:2
1837	A:1 F:4 K:1
1838	C:1
1839	A:9 K:1
1840	H:1
1841	H:1
1842	C:2
1843	A:1
1844	D:1
1845	A:1 D:4 H:9
1846	A:1
1847	B:2
1848	A:2
1849	K:1
1850	F:1 K:1
1851	A:1
1852	C:3
1853	K:1
1854	B:1 C:1 D:2 H:4 J:12
1855	F:1
1856	A:4 B:6 H:1 K:1
1857	D:1
1858	K:1
1859	A:3
1860	F:3 K:37
1861	D:1
1862	F:1 K:1
1863	A:5 B:5 D:4 F:2 H:1 K:9
1864	H:3
1865	H:1
1866	C:6 I:1
1867	A:8 B:36 C:13 D:7 F:1 H:1 J:1
1868	D:1
1869	K:2
1870	B:3
1871	A:1
1872	K:1
1873	A:3 K:3
1874	F:5 K:1
1875	K:4
1876	K:1
1877	K:3
1878	F:1
1879	F:1 K:1
1880	B:1
1881	B:1 C:5 F:1
1882	F:1
1883	F:1
1884	A:1 B:6
1885	K:1
1886	K:1
1887	F:5 K:1
1888	I:1
1889	B:1
1890	D:1
1891	F:1 K:4
1892	B:2
1893	A:2 C:2 K:1
1894	K:1
1895	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1896	I:1
1897	A:1
1898	K:1
1899	A:1
1900	B:2
1901	K:2
1902	D:1
1903	D:1
1904	I:2
1905	F:5
1906	A:1 H:1
1907	A:4
1908	K:1
1909	K:2
1910	B:1
1911	K:1
1912	B:1
1913	A:13
1914	B:2
1915	C:1
1916	I:1
1917	H:1
1918	H:3
1919	B:2
1920	F:1 K:2
1921	A:1
1922	K:1
1923	K:7
1924	A:1
1925	B:2
1926	A:1
1927	A:1
1928	A:1
1929	B:1
1930	A:10 H:1 I:1
1931	E:1
1932	K:1
1933	A:1
1934	B:2
1935	A:1
1936	F:1 K:7
1937	C:1
1938	K:1
1939	C:1
1940	C:1
1941	K:1
1942	C:1
1943	C:1
1944	C:1
1945	B:1 C:1 D:1 H:4 J:12
1946	B:1
1947	C:11
1948	B:1
1949	B:1
1950	F:3 K:2
1951	H:3
1952	C:1
1953	K:1
1954	K:1
1955	C:5
1956	B:1
1957	B:2
1958	C:1
1959	F:1
1960	E:1 K:2
1961	A:4 H:1
1962	F:3 K:1
1963	B:2 D:1 K:3
1964	H:3
1965	F:4 K:1
1966	D:1
1967	H:4
1968	B:3
1969	B:3
1970	D:2
1971	A:1 F:3 K:1
1972	F:18 K:6
1973	A:2 B:6 C:72 D:1 F:2 H:5 J:5 K:3
1974	A:15 B:3 F:2
1975	I:2
1976	B:3
1977	B:2
1978	A:4
1979	A:4
1980	A:2 B:1 D:1
1981	H:1
1982	A:2
1983	C:9
1984	A:1 C:15 H:1
1985	F:2
1986	A:1
1987	C:1
1988	K:1
1989	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
1990	C:1
1991	K:1
1992	C:1
1993	A:3
1994	F:2 K:1
1995	K:4
1996	K:1
1997	F:1 K:5
1998	C:3
1999	A:1
2000	A:2
2001	C:1
2002	F:1
2003	A:5 B:1 D:1 F:1
2004	A:6 D:1 F:1
2005	A:1 B:3 C:29 D:4 H:2 J:1
2006	A:26
2007	H:2
2008	K:2
2009	A:7 B:20 C:41 D:5 F:6 H:36 I:4 K:12
2010	A:9
2011	C:9
2012	K:1
2013	K:1
2014	K:1
2015	K:1
2016	F:1
2017	A:2 B:13 C:1 F:10 H:1 K:38
2018	C:1 D:1 F:2 K:1
2019	K:3
2020	B:2
2021	C:18 J:1
2022	B:1
2023	D:1
2024	K:4
2025	C:1
2026	K:1
2027	K:1
2028	B:2
2029	F:2 K:2
2030	H:2
2031	K:1
2032	A:1
2033	K:1
2034	K:4
2035	F:1 K:1
2036	K:3
2037	F:3
2038	C:2
2039	I:1
2040	K:3
2041	K:1
2042	C:1 F:1
2043	I:2
2044	B:1 C:3 F:6 H:3 I:2 K:4
2045	A:1
2046	H:3
2047	K:1
2048	B:3
2049	K:1
2050	H:3
2051	A:2 B:2 C:8 D:2 H:1
2052	K:1
2053	A:2 C:2 I:1
2054	K:1
2055	F:1 K:2
2056	H:1
2057	H:1
2058	K:1
2059	F:1
2060	B:1
2061	C:1
2062	C:1
2063	C:1
2064	C:1
2065	C:1
2066	C:1
2067	I:2
2068	A:1 H:1
2069	K:3
2070	C:1
2071	C:1
2072	I:1
2073	I:1
2074	C:1
2075	K:2
2076	C:1
2077	C:1
2078	C:1
2079	C:1
2080	C:1
2081	I:1
2082	C:55 H:5 K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2083	C:1
2084	I:1
2085	C:1
2086	C:1
2087	C:1
2088	I:1
2089	C:1
2090	F:5 K:2
2091	I:1
2092	C:1
2093	C:1
2094	K:1
2095	C:1
2096	I:1
2097	C:1
2098	I:1
2099	K:1
2100	F:7 K:44
2101	C:1
2102	D:1
2103	C:1
2104	E:1
2105	I:1
2106	D:1
2107	C:1
2108	I:1
2109	J:1
2110	C:1
2111	I:1
2112	I:1
2113	J:1
2114	D:1
2115	I:1
2116	D:1
2117	C:1
2118	C:1
2119	D:1
2120	C:1
2121	B:1 D:1 H:7
2122	D:1
2123	K:2
2124	C:1
2125	C:1
2126	C:1
2127	I:1
2128	C:1
2129	C:1

Seq Id No.	Tissue distribution
2130	D:1
2131	I:1
2132	B:3 H:1
2133	I:1
2134	D:1
2135	I:1
2136	C:1
2137	D:1
2138	D:1
2139	D:1
2140	B:1
2141	B:1
2142	D:1
2143	D:1
2144	H:2
2145	D:1
2146	B:1
2147	B:1
2148	B:1
2149	D:1
2150	D:1
2151	D:1
2152	B:1
2153	F:1
2154	D:1
2155	C:1
2156	F:2 K:2
2157	D:1
2158	D:1
2159	D:1
2160	D:1
2161	B:1
2162	B:1
2163	B:1
2164	D:1
2165	D:1
2166	D:1
2167	A:6
2168	D:1
2169	D:1
2170	B:5
2171	D:1
2172	E:1
2173	F:1
2174	F:5 K:2
2175	J:1
2176	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2177	D:1
2178	F:1
2179	F:1
2180	B:1
2181	F:1
2182	D:1
2183	F:1
2184	D:1
2185	J:1
2186	B:1
2187	A:1 D:1
2188	F:1
2189	A:2
2190	A:1
2191	A:1
2192	D:1
2193	A:1
2194	C:2 H:4
2195	C:2 H:4
2196	D:1
2197	C:1
2198	H:2
2199	A:1
2200	C:8
2201	A:1
2202	A:1
2203	A:1
2204	A:1
2205	A:1
2206	A:1
2207	A:1
2208	D:1
2209	K:3
2210	K:2
2211	C:1
2212	F:1
2213	A:1
2214	A:1
2215	A:1
2216	C:1
2217	D:1
2218	A:2
2219	D:1
2220	B:2
2221	F:1
2222	A:1
2223	A:1
2224	A:1
2225	A:1
2226	C:1
2227	A:1
2228	A:1
2229	F:1
2230	C:1
2231	A:1
2232	A:1
2233	K:1
2234	K:1
2235	K:1
2236	A:1
2237	A:1
2238	H:1
2239	A:5
2240	A:1
2241	A:1
2242	C:1
2243	B:1
2244	K:1
2245	A:1
2246	A:1
2247	K:1
2248	A:1
2249	A:1
2250	K:1
2251	A:1
2252	A:1
2253	D:1
2254	A:1
2255	A:1
2256	B:1 F:9 I:1 K:3
2257	A:1
2258	B:1 D:1 F:1 I:1 K:1
2259	K:1
2260	C:8
2261	B:3
2262	K:3
2263	A:1
2264	A:1
2265	A:1
2266	A:1
2267	A:1
2268	A:1
2269	A:1
2270	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2271	B:1
2272	K:1
2273	K:1
2274	A:1
2275	D:1
2276	A:1
2277	K:1
2278	A:1
2279	A:1
2280	F:1
2281	A:1
2282	A:11
2283	A:1
2284	A:1
2285	A:1
2286	K:1
2287	K:1
2288	A:1
2289	A:1
2290	K:1
2291	A:1
2292	A:1
2293	A:1
2294	A:1
2295	K:1
2296	K:1
2297	A:1
2298	A:1
2299	A:1
2300	A:1
2301	A:1
2302	A:1
2303	A:1
2304	K:1
2305	K:1
2306	A:1
2307	A:1
2308	A:1
2309	F:1
2310	K:1
2311	A:1
2312	F:1 K:1
2313	A:1
2314	A:1
2315	C:1
2316	C:1
2317	C:1

Seq Id No.	Tissue distribution
2318	F:1
2319	A:1
2320	A:1
2321	A:1
2322	F:1
2323	K:1
2324	A:1
2325	A:1
2326	B:1
2327	K:1
2328	K:1
2329	A:1
2330	K:1
2331	F:1
2332	A:1
2333	A:1
2334	F:2 K:1
2335	A:1
2336	K:1
2337	K:1
2338	A:1
2339	A:1
2340	A:1
2341	A:1
2342	K:1
2343	A:1
2344	A:1
2345	A:1
2346	A:1
2347	A:1
2348	B:1
2349	A:1
2350	A:1
2351	H:2
2352	A:1
2353	K:1
2354	K:1
2355	K:3
2356	F:2 K:6
2357	K:1
2358	K:1
2359	K:1
2360	F:1 H:1 K:1
2361	K:1
2362	K:1
2363	K:1
2364	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2365	K:1
2366	B:4
2367	F:34 K:160
2368	K:4
2369	B:3
2370	F:1 K:4
2371	H:6
2372	A:3 B:2 C:2 D:1 I:1 K:1
2373	F:8 K:2
2374	K:1
2375	F:1
2376	K:3
2377	K:1
2378	D:1
2379	A:113
2380	A:1
2381	B:1
2382	A:1
2383	K:1
2384	A:2 B:2 F:68 H:1 K:16
2385	A:1
2386	K:1
2387	C:6
2388	K:1
2389	K:1
2390	C:7
2391	K:1
2392	F:1 K:1
2393	C:1
2394	K:1
2395	B:1
2396	A:1 D:1 H:1
2397	F:1 K:15
2398	K:1
2399	K:1
2400	F:2
2401	A:1 B:6 H:1
2402	A:1
2403	H:1
2404	A:1
2405	K:1
2406	K:1
2407	K:2
2408	H:2
2409	A:1
2410	F:1 K:3
2411	A:18 B:11 C:11 F:1 H:6 I:3 J:3
	K:2
2412	K:1
2413	K:1
2414	A:2 J:2
2415	K:1
2416	A:1 B:5 C:1 D:1 K:2
2417	A:2 C:14 H:1
2418	F:2
2419	A:1 I:1
2420	K:1
2421	K:2
2422	A:1
2423	F:1 K:2
2424	A:2
2425	K:2
2426	A:4
2427	A:2 B:3 C:8 D:2 F:2 H:2 K:3
2428	C:1
2429	H:1
2430	B:1
2431	F:7 K:3
2432	F:1 K:2
2433	F:4
2434	K:1
2435	F:2 K:3
2436	A:2 D:1 H:1
2437	K:1
2438	I:2
2439	K:3
2440	F:1 K:4
2441	A:1
2442	H:2
2443	D:1
2444	B:1
2445	C:2
2446	F:2
2447	H:1 K:1
2448	K:1
2449	K:1
2450	K:1
2451	K:1
2452	F:7 K:4
2453	D:3 F:15 I:1 K:61
2454	D:1 H:2 K:7
2455	C:1
2456	A:1
2457	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2458	K:1
2459	F:1
2460	K:1
2461	K:1
2462	B:3
2463	K:1
2464	F:1 K:1
2465	I:4
2466	H:5
2467	K:6
2468	A:2 D:3 H:1 K:1
2469	F:1 K:1
2470	F:3 K:8
2471	F:3
2472	K:1
2473	K:1
2474	K:1
2475	B:2
2476	C:1
2477	A:1
2478	F:10
2479	C:3
2480	A:1
2481	K:2
2482	D:1 H:1
2483	C:1
2484	B:3
2485	A:17 B:7 C:2 D:7 H:4
2486	B:2
2487	A:24 B:81 C:60 D:28 F:6 H:69 I:2 J:9 K:30
2488	K:1
2489	B:3
2490	F:1 K:2
2491	K:1
2492	F:1 K:1
2493	A:1 K:3
2494	F:2 K:10
2495	K:1
2496	B:2
2497	A:2
2498	K:1
2499	A:2
2500	F:5 K:3
2501	K:1
2502	A:3
2503	A:5 D:1
2504	K:1
2505	A:6 B:2 C:2 D:1 F:1
2506	F:1 K:1
2507	A:1
2508	F:2 K:48
2509	K:1
2510	K:2
2511	A:1 C:5
2512	B:1
2513	A:1
2514	A:1
2515	K:1
2516	H:2
2517	B:1
2518	K:1
2519	K:1
2520	A:9 B:1 I:1
2521	A:1
2522	K:3
2523	F:11 H:2
2524	F:11 H:3
2525	K:1
2526	K:1
2527	K:1
2528	A:6
2529	C:18
2530	C:6
2531	K:1
2532	K:1
2533	K:1
2534	K:1
2535	K:2
2536	K:1
2537	K:1
2538	K:1
2539	C:2
2540	A:6 B:5 C:1 H:7
2541	K:2
2542	K:2
2543	K:3
2544	B:3
2545	D:49
2546	C:11
2547	K:1
2548	F:1 K:1
2549	D:1
2550	A:5

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2551	K:1
2552	D:1
2553	F:1 K:1
2554	H:1
2555	K:1
2556	K:1
2557	K:1
2558	B:1
2559	C:1
2560	A:8
2561	B:1
2562	C:9 H:1
2563	B:1
2564	K:3
2565	K:1
2566	F:5
2567	B:1
2568	B:1 K:3
2569	K:1
2570	K:1
2571	K:2
2572	F:2
2573	B:1
2574	B:2 F:1 K:3
2575	K:2
2576	C:1 K:1
2577	B:3 C:2 D:2 H:1
2578	B:4 C:2 D:1 H:1
2579	B:2 C:1 D:1 F:2
2580	C:1 F:15
2581	K:1
2582	K:2
2583	K:1
2584	A:3 B:3 C:2 D:1 F:5 H:1
2585	D:1
2586	B:1
2587	F:25 K:7
2588	K:1
2589	K:4
2590	K:1
2591	F:1 K:8
2592	K:7
2593	B:2
2594	F:10 K:1
2595	K:1
2596	C:5 J:2
2597	K:1

Seq Id No.	Tissue distribution
2598	A:2
2599	F:1 K:3
2600	K:1
2601	K:1
2602	A:1
2603	A:1
2604	B:1
2605	K:3
2606	C:1
2607	A:1
2608	A:3 B:21 C:43 D:2 H:18 I:1 K:4
2609	K:1
2610	K:1
2611	K:1
2612	A:20 B:2
2613	A:1 B:2 C:4
2614	A:20 B:2
2615	K:1
2616	A:1
2617	K:3
2618	F:2 K:4
2619	C:1 F:2 H:8 I:3
2620	B:2
2621	K:1
2622	A:1 B:1
2623	F:13 K:32
2624	K:1
2625	K:1
2626	K:1
2627	K:1
2628	F:1
2629	K:1
2630	K:1
2631	K:1
2632	K:1
2633	K:1
2634	K:1
2635	F:1 K:2
2636	K:1
2637	K:1
2638	A:1 B:1 C:15 D:1 J:2
2639	K:1
2640	B:1
2641	B:1
2642	F:1 K:1
2643	K:1
2644	A:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2645	K:1
2646	K:1
2647	A:9
2648	K:1
2649	K:1
2650	K:1
2651	K:5
2652	A:13 B:1 C:11 D:1 F:4 H:1 K:17
2653	C:1
2654	K:2
2655	K:2
2656	A:7
2657	A:2
2658	D:1 H:1
2659	K:1
2660	A:3 B:1 C:1 F:1 H:13 I:3 J:2 K:1
2661	H:1
2662	H:1
2663	K:4
2664	K:3
2665	B:3
2666	K:1
2667	H:4
2668	A:4 B:1 H:1
2669	K:2
2670	K:1
2671	A:4 B:8 C:74 D:1 F:3 H:16 I:2
2672	B:1 C:6 H:17
2673	B:1 C:16 H:7
2674	B:1
2675	F:13 K:101
2676	B:1
2677	C:4
2678	K:1
2679	A:3
2680	A:16
2681	A:12
2682	A:1 F:2
2683	F:1 K:9
2684	K:1
2685	K:1
2686	D:1
2687	K:1
2688	B:1
2689	D:1
2690	H:1 I:2
2691	A:1 B:2

Seq Id No.	Tissue distribution
2692	K:1
2693	K:2
2694	A:1 B:2 H:1
2695	K:1
2696	K:1
2697	A:2
2698	F:1 K:1
2699	K:3
2700	K:1
2701	F:1
2702	A:2
2703	F:2 K:2
2704	F:1 K:1
2705	K:1
2706	B:1
2707	A:5
2708	K:1
2709	B:2
2710	A:2
2711	F:9 K:3
2712	C:1
2713	A:12 C:1
2714	C:1
2715	C:1
2716	B:1
2717	K:3
2718	B:1 C:1
2719	C:1
2720	F:1 K:1
2721	F:2 K:1
2722	A:4
2723	A:1 F:2 H:1
2724	H:1
2725	K:1
2726	K:1
2727	C:2
2728	A:15 B:56 C:25 D:20 F:2 H:16 I:1 J:5 K:1
2729	C:3 D:1 H:1
2730	C:1
2731	H:2
2732	H:3
2733	K:1
2734	D:2 K:1
2735	A:2
2736	K:1
2737	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2738	K:1
2739	F:3
2740	A:6 B:1 C:1 D:3 H:6
2741	K:1
2742	C:1
2743	C:25
2744	K:3
2745	A:1 D:3
2746	D:1
2747	K:1
2748	F:1 K:1
2749	B:1
2750	B:1 C:1 D:1 F:1 H:2 K:2
2751	K:1
2752	K:1
2753	B:1
2754	A:4 C:1 J:2
2755	B:1
2756	B:2
2757	K:1
2758	B:1
2759	C:4 H:1 J:1
2760	C:2 D:1 K:1
2761	C:26 D:1
2762	B:2
2763	B:3
2764	K:1
2765	F:3
2766	B:5 C:25 D:1 H:1 J:3 K:2
2767	B:4
2768	B:3 C:26 D:1 H:1 J:3 K:2
2769	A:9 B:5 C:36 D:2 H:1 J:3 K:3
2770	C:1
2771	C:1
2772	B:7 C:12 D:1 H:1 K:1
2773	A:2 B:6 K:2
2774	K:1
2775	K:1
2776	K:1
2777	K:3
2778	B:1
2779	F:1 K:1
2780	A:7
2781	K:1
2782	B:2 C:1 F:1 H:2
2783	B:2
2784	K:1
2785	A:2 D:2 F:1 H:10
2786	H:2
2787	F:4 K:3
2788	B:1
2789	K:1
2790	A:9
2791	A:16 C:2 D:1 I:1
2792	K:2
2793	K:1
2794	C:7
2795	J:1
2796	J:1
2797	J:1
2798	J:1
2799	J:1
2800	J:1
2801	J:1
2802	J:1
2803	J:1
2804	J:1
2805	J:1
2806	K:1
2807	F:4 K:4
2808	K:1
2809	K:1
2810	K:1
2811	K:1
2812	H:1
2813	B:3 C:8
2814	K:1
2815	A:11 B:24 C:19 D:11 E:2 F:3 H:12 I:5 J:2
2816	H:19 K:2
2817	B:1
2818	K:1
2819	K:1
2820	A:3
2821	K:1
2822	D:2
2823	C:3
2824	K:1
2825	A:1 D:1
2826	B:1
2827	B:1 C:1 D:1
2828	A:1 C:34 J:1
2829	K:1
2830	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2831	K:1
2832	B:1 F:4 I:1 K:3
2833	K:1
2834	B:3 C:11 I:1
2835	A:1
2836	D:2 H:1
2837	K:1
2838	F:3
2839	A:1 B:2 H:2
2840	K:1
2841	K:1
2842	K:1
2843	K:1
2844	A:1 B:1 C:2
2845	A:4 B:26 C:39 D:6 H:3 J:1 K:2
2846	D:1
2847	B:1
2848	C:1
2849	A:2
2850	K:1
2851	C:1
2852	F:5 K:6
2853	A:1 F:1 H:8
2854	B:1 C:5
2855	D:1 K:10
2856	A:1 H:1 K:1
2857	B:1
2858	K:1
2859	B:1
2860	A:2 B:3 C:1
2861	B:1
2862	F:1
2863	A:7 F:15 K:21
2864	D:1 H:1
2865	A:2
2866	K:2
2867	F:1 K:3
2868	K:3
2869	B:4
2870	A:12 B:2 D:3 H:1 I:11
2871	I:1
2872	F:1
2873	K:3
2874	F:3 K:35
2875	K:1
2876	H:3
2877	B:2 C:1
2878	A:1 H:1
2879	C:4
2880	K:2
2881	F:2 K:23
2882	K:1
2883	B:1
2884	B:5 C:1
2885	K:1
2886	D:1
2887	F:4
2888	A:2 C:1 F:1 H:1 K:3
2889	F:1
2890	F:1
2891	A:1 B:1 C:1 F:1 H:1
2892	A:7
2893	F:1 K:7
2894	F:4 K:10
2895	B:1
2896	H:3
2897	F:1
2898	H:1
2899	K:5
2900	B:1 I:1
2901	F:1
2902	B:6 C:1
2903	F:1
2904	C:7
2905	A:3
2906	B:1
2907	F:1 H:2
2908	C:15
2909	C:1
2910	F:1
2911	A:2 B:2 C:8 D:1
2912	K:2
2913	K:2
2914	A:3 F:1 H:1
2915	F:1
2916	C:15
2917	B:1
2918	F:1
2919	B:1 D:1 K:2
2920	B:2
2921	F:2 K:9
2922	B:3
2923	F:1
2924	A:1 B:4

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
2925	B:1 C:2 H:20 I:1 K:2
2926	F:3
2927	H:2
2928	H:2
2929	F:1
2930	F:1
2931	A:1 B:3 C:18 D:1 F:1 H:46
2932	K:3
2933	A:8 B:3 C:30 F:1 I:2
2934	F:1 K:1
2935	D:1
2936	B:3
2937	H:6
2938	A:18 B:38 C:77 D:28 E:2 F:13 H:129 I:1 J:4 K:19
2939	F:1
2940	A:1 B:5 C:2 D:1 F:1 H:46
2941	I:3
2942	F:1
2943	B:3
2944	C:5
2945	A:27 H:8 I:1
2946	A:1
2947	K:2
2948	H:1
2949	B:4 C:6
2950	F:1
2951	D:3
2952	A:2 H:2
2953	F:1
2954	B:1
2955	C:1
2956	F:1
2957	F:1
2958	F:1
2959	C:2
2960	F:1
2961	F:1
2962	K:2
2963	K:2
2964	B:6
2965	F:1
2966	F:1 K:1
2967	H:1
2968	A:8 B:7 D:1 H:4 I:6 K:1
2969	H:2
2970	A:3 B:7 C:8 D:2 H:2 K:2
2971	B:2
2972	F:1
2973	K:1
2974	C:4 I:1
2975	K:1
2976	K:2
2977	B:1
2978	B:6
2979	A:2
2980	B:4
2981	A:5 B:9 C:42 D:3 F:2 H:7 J:1 K:3
2982	E:1
2983	B:1
2984	I:5
2985	A:7
2986	I:3
2987	C:1
2988	F:1
2989	B:2
2990	H:2
2991	D:3 H:2
2992	H:1
2993	F:1
2994	B:1
2995	F:1 K:13
2996	A:1 B:1
2997	C:15
2998	K:2
2999	B:1
3000	K:1
3001	A:10 B:9
3002	C:1 D:1
3003	B:1 C:1 D:1 H:2
3004	F:1
3005	C:7 D:1 F:4 K:31
3006	A:1 F:2 H:1 K:3
3007	A:3 B:2 C:11 D:1 H:1 K:1
3008	C:2 H:1 K:1
3009	B:1
3010	C:5
3011	C:1 K:2
3012	A:2
3013	F:5 K:9
3014	K:2
3015	C:1
3016	A:1 D:2
3017	A:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3018	F:1 K:2
3019	H:2
3020	H:1
3021	K:2
3022	I:2
3023	A:4
3024	I:4
3025	C:11 H:1
3026	K:1
3027	K:2
3028	K:1
3029	J:15
3030	A:13
3031	B:2
3032	F:1 K:1
3033	K:1
3034	A:8 F:14 I:2 K:5
3035	D:1
3036	F:2 K:1
3037	H:2
3038	H:3
3039	B:1 I:3
3040	H:1
3041	A:3 B:1 F:7
3042	K:1
3043	K:1
3044	B:3
3045	K:1
3046	F:1 K:3
3047	C:20 J:1 K:1
3048	K:1
3049	A:2 B:12 C:3 D:1 H:1
3050	K:1
3051	K:1
3052	K:1
3053	F:2 K:1
3054	K:1
3055	K:1
3056	A:1 B:1 K:1
3057	F:3 K:1
3058	K:3
3059	F:2
3060	F:3 K:5
3061	F:2 K:7
3062	K:1
3063	K:1
3064	B:2
3065	B:1
3066	K:3
3067	K:10
3068	A:8
3069	F:8 K:2
3070	K:2
3071	F:1 K:1
3072	A:9 C:1
3073	K:1
3074	K:1
3075	K:1
3076	C:3
3077	K:1
3078	H:1
3079	K:1
3080	K:1
3081	K:1
3082	K:1
3083	K:1
3084	F:21 K:2
3085	H:2
3086	B:2
3087	C:15
3088	C:1
3089	C:1
3090	C:1
3091	C:1
3092	C:1
3093	K:4
3094	K:3
3095	K:1
3096	F:4 K:16
3097	C:1
3098	D:1
3099	A:5 B:6 C:14 H:2
3100	B:1
3101	B:1
3102	H:1
3103	K:2
3104	K:3
3105	K:1
3106	K:1
3107	C:7
3108	H:1
3109	F:8 K:1
3110	H:1
3111	A:1 C:4 D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3112	B:3
3113	K:1
3114	F:1 K:3
3115	C:2
3116	F:1 K:3
3117	A:6
3118	K:2
3119	F:1
3120	F:1
3121	A:7 D:7 F:21 H:9 K:21
3122	A:7 B:1 D:7 F:21 H:9 K:20
3123	F:1
3124	A:2
3125	A:2
3126	I:1 K:1
3127	C:5 H:1
3128	B:1 F:4 K:1
3129	F:1
3130	A:4
3131	B:1
3132	F:1
3133	A:2 B:8 C:55 D:5 H:9 J:4 K:3
3134	E:1
3135	D:1
3136	H:1
3137	K:1
3138	F:1 K:1
3139	D:1 H:1
3140	F:1
3141	F:1
3142	F:1 K:1
3143	B:2
3144	A:10 B:25 C:47 D:4 F:1 H:8 I:1 J:2 K:2
3145	A:4 B:4 C:14 D:2 F:3 H:2 K:24
3146	F:2 K:3
3147	A:5 B:1
3148	A:3
3149	A:1 F:5 H:4 K:12
3150	K:3
3151	D:1 F:1 H:3 K:3
3152	F:1 K:4
3153	H:4
3154	K:1
3155	F:5
3156	A:3 B:1 C:14 F:1 J:67
3157	A:2 B:2 C:2 F:1

Seq Id No.	Tissue distribution
3158	A:4
3159	A:5 B:1 C:2 D:3 F:1 H:3 K:2
3160	A:4 C:2 D:3 F:1 H:2 K:1
3161	A:1
3162	F:11 K:4
3163	K:3
3164	C:4 J:1
3165	A:6
3166	K:2
3167	F:1
3168	A:2 D:1
3169	F:1 K:1
3170	K:8
3171	F:2
3172	A:15 C:13 H:1
3173	K:2
3174	K:1
3175	K:3
3176	D:1 F:1
3177	F:2
3178	A:1 B:5 C:13 D:2 H:4 I:1
3179	A:1 H:3
3180	F:1
3181	A:2 B:1 D:2
3182	A:1 B:4 C:16 J:1
3183	C:20 H:1
3184	B:1
3185	F:1
3186	K:7
3187	A:4
3188	A:2 C:5 H:1
3189	F:1
3190	F:1
3191	F:1
3192	A:1 B:3 H:2 K:1
3193	F:2 K:1
3194	A:8
3195	C:3
3196	A:3
3197	B:2
3198	B:1
3199	K:2
3200	F:1
3201	F:1
3202	B:1
3203	B:1
3204	A:6 B:1 C:4 H:24 I:3 K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3205	C:7
3206	F:1
3207	F:1
3208	F:1 K:2
3209	F:1 K:1
3210	F:1
3211	B:1 C:4 H:2
3212	B:1
3213	K:1
3214	K:1
3215	C:2
3216	K:1
3217	A:10
3218	I:1
3219	F:5 K:1
3220	K:1
3221	K:2
3222	A:1
3223	F:5 K:1
3224	A:1
3225	B:1 F:3 K:1
3226	A:1 B:1 C:1 I:3 K:2
3227	C:5
3228	K:3
3229	H:1
3230	A:4 B:2 C:2 F:2 K:1
3231	A:1 B:4 K:1
3232	K:2
3233	H:1
3234	H:1
3235	H:1
3236	B:2 D:3 H:2 I:2
3237	B:1 C:1
3238	B:4
3239	A:1 B:1 C:8 D:1 H:4 J:3 K:1
3240	C:3
3241	A:2 C:6 D:1 H:2 J:3
3242	B:8 C:1 H:1
3243	D:2
3244	B:1
3245	K:2
3246	H:1
3247	H:1
3248	F:2 K:1
3249	B:2
3250	A:2 B:2 C:7 H:20 K:9
3251	A:2 B:2 C:2 H:20 K:12
3252	A:2 B:2 C:2 H:25 K:9
3253	A:2 B:2 C:2 H:26 K:9
3254	A:48 B:29 C:8 D:18 E:2 F:25 H:235 K:85
3255	F:1
3256	A:1
3257	H:1
3258	D:2
3259	A:2
3260	H:1
3261	H:1
3262	C:1
3263	B:1
3264	A:3
3265	A:2
3266	C:17
3267	H:1
3268	H:1
3269	B:4
3270	H:1
3271	B:4 C:1 D:3 E:1 K:3
3272	H:1
3273	I:2
3274	K:1
3275	F:2 K:7
3276	F:2 K:15
3277	A:1 H:1
3278	H:1
3279	K:1
3280	F:4 K:1
3281	K:2
3282	F:1 K:5
3283	H:4
3284	D:1
3285	A:1 B:1
3286	H:1
3287	A:1 D:1
3288	B:1 C:1
3289	B:1
3290	C:23
3291	C:1
3292	C:1
3293	K:2
3294	H:1
3295	C:19 D:1
3296	H:1
3297	A:3 B:3 C:1 D:3 H:1 K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3298	H:1
3299	H:1
3300	H:1
3301	F:5 K:1
3302	I:1
3303	H:1
3304	C:1
3305	A:2 B:4 C:9 D:1 H:4 K:1
3306	F:1 K:1
3307	I:1
3308	K:4
3309	B:3
3310	H:1
3311	A:3 B:1
3312	K:2
3313	H:1
3314	A:1
3315	H:1
3316	H:1
3317	H:1
3318	H:1
3319	K:4
3320	F:1
3321	K:2
3322	F:11 K:2
3323	H:8
3324	H:1
3325	K:17
3326	H:1
3327	D:1 F:1
3328	A:4
3329	B:2
3330	B:1 C:1
3331	A:5 B:5 C:1 H:1 K:4
3332	A:1
3333	H:1
3334	H:1
3335	A:2
3336	H:1
3337	B:2 C:1 K:1
3338	C:2 D:1 F:2 K:4
3339	H:1
3340	K:2
3341	K:2
3342	A:3
3343	A:19 B:70 C:89 D:29 E:1 H:36 I:1 J:1 K:14

Seq Id No.	Tissue distribution
3344	A:2 B:1 C:26 D:4 H:2 J:3
3345	H:6
3346	B:1 C:11
3347	B:1 C:4
3348	D:1
3349	B:2
3350	B:1
3351	B:1
3352	B:1
3353	K:2
3354	C:15
3355	C:1
3356	H:1
3357	F:5 K:1
3358	D:2
3359	H:1
3360	K:2
3361	F:1 K:1
3362	A:2 B:5 C:58 D:2 F:22 H:3 I:3 J:9 K:122
3363	A:1 B:4 C:39 D:2 F:22 H:3 I:3 J:9 K:106
3364	A:1 B:5 C:54 D:2 F:22 H:3 I:3 J:9 K:130
3365	C:1
3366	F:1
3367	H:1
3368	A:5 D:1
3369	A:26 B:12 C:2 K:1
3370	D:1
3371	B:1
3372	A:1
3373	A:1
3374	A:1
3375	A:1
3376	A:1
3377	A:1
3378	A:1
3379	A:2
3380	K:2
3381	B:1
3382	F:3 H:1 K:11
3383	H:2
3384	A:1 C:17 D:2 H:3
3385	H:4
3386	H:1
3387	I:3
3388	K:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3389	K:2
3390	H:1
3391	F:9 K:1
3392	F:2
3393	H:1
3394	I:2
3395	H:2
3396	F:1 K:1
3397	H:3
3398	H:1
3399	H:1
3400	H:1
3401	H:1
3402	K:2
3403	H:1
3404	H:1
3405	H:1
3406	A:11
3407	H:1
3408	H:1
3409	K:1
3410	C:2
3411	F:5 K:2
3412	A:1 B:1
3413	K:1
3414	H:1
3415	A:1 C:1
3416	H:1
3417	F:1 K:2
3418	A:2 K:1
3419	H:12
3420	F:2
3421	A:1 F:1 K:5
3422	F:26 K:172
3423	F:5 K:14
3424	B:1
3425	H:1
3426	K:1
3427	F:1
3428	I:1
3429	B:1
3430	F:4 K:35
3431	A:1 B:4 C:9 D:1
3432	B:1
3433	F:5 K:2
3434	D:2
3435	F:1 K:8

Seq Id No.	Tissue distribution
3436	K:4
3437	B:1
3438	F:1 K:5
3439	B:1
3440	A:1 B:1 C:3
3441	H:9
3442	B:5
3443	D:3
3444	F:1 K:1
3445	F:1
3446	H:4
3447	K:2
3448	C:9 H:2
3449	H:1
3450	H:6
3451	B:3
3452	K:1
3453	K:1
3454	B:1 F:6
3455	F:1 K:3
3456	F:1 K:6
3457	F:1 K:21
3458	F:5
3459	C:6 H:1 J:1
3460	B:1 H:4 K:4
3461	D:1
3462	K:2
3463	H:1
3464	H:1
3465	A:1 D:1
3466	A:51 B:69 C:43 D:16 E:2 F:6 H:2 I:23 J:9 K:20
3467	B:3
3468	K:1
3469	K:1
3470	K:1
3471	H:1
3472	K:2
3473	I:2
3474	H:2
3475	H:1
3476	A:1 B:1 C:1
3477	K:1
3478	B:2
3479	F:1
3480	H:1
3481	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3482	F:4 K:19
3483	F:2 K:7
3484	F:2 K:15
3485	F:1
3486	K:1
3487	K:1
3488	F:1
3489	B:2
3490	A:1 B:10 H:1
3491	A:7 B:1 D:3 H:1 K:1
3492	A:5 B:1 D:1 H:1 K:1
3493	K:2
3494	K:2
3495	H:1
3496	K:1
3497	A:1 K:1
3498	C:1 D:3 H:1
3499	B:2
3500	B:1 E:1 H:1
3501	F:1 K:6
3502	K:1
3503	F:1
3504	H:1
3505	F:2
3506	A:1
3507	K:2
3508	F:1 K:1
3509	A:1 B:14 C:42 D:16 F:6 H:10 K:9
3510	B:3 C:4 D:2 F:4 H:4 K:3
3511	D:1
3512	F:3
3513	H:1
3514	A:1 C:15 D:1 H:1
3515	B:1
3516	H:1
3517	H:1
3518	A:3 D:1 H:2
3519	A:1 H:2
3520	A:2
3521	B:2
3522	B:1 F:7
3523	K:3
3524	A:3 B:1 D:1 K:2
3525	A:3 B:4 D:1 F:1
3526	H:1
3527	K:1
3528	A:16
3529	B:1
3530	K:1
3531	H:1
3532	H:1
3533	H:1
3534	H:1 K:3
3535	I:2
3536	H:1
3537	H:1
3538	A:8
3539	K:1
3540	B:3
3541	H:1
3542	H:1
3543	H:1
3544	H:1
3545	H:1
3546	B:4
3547	B:1 C:1
3548	H:2
3549	H:1
3550	H:1
3551	I:3
3552	A:2
3553	A:13
3554	H:1
3555	C:28 D:3 K:3
3556	C:31 D:3 K:2
3557	F:3 K:1
3558	H:1
3559	F:1 K:2
3560	D:1
3561	A:10 B:1 C:3 H:5
3562	K:1
3563	H:1
3564	A:37
3565	A:5
3566	A:1
3567	K:2
3568	A:3 B:35 C:23 D:6 F:2 H:3 K:3
3569	A:9 B:42 C:42 D:2 H:9 K:6
3570	F:1
3571	C:1
3572	C:1
3573	F:11 K:1
3574	A:1 B:2
3575	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3576	H:1
3577	H:1
3578	C:6
3579	H:1
3580	H:1
3581	H:2 I:4
3582	A:7 B:6 C:1 D:19 K:1
3583	F:5 K:2
3584	A:27 B:8 D:7 F:3 H:3 K:1
3585	H:1
3586	D:1
3587	D:1
3588	F:10 K:5
3589	K:2
3590	K:15
3591	K:2
3592	H:1
3593	F:6 K:36
3594	H:6
3595	F:1 K:5
3596	K:1
3597	K:6
3598	A:1 D:1
3599	F:2 H:1 K:4
3600	A:2 C:3
3601	C:27
3602	F:1
3603	F:1
3604	B:2
3605	D:1
3606	K:1
3607	A:1 D:1
3608	F:14 K:3
3609	A:1 B:3
3610	A:3
3611	H:1
3612	A:11 B:7 C:10 H:5 K:1
3613	A:1
3614	C:3 F:1 H:1
3615	C:2
3616	C:14 D:1 F:1 J:1
3617	K:2
3618	A:6 B:5 C:3 F:1 H:31
3619	H:1
3620	A:1
3621	K:1
3622	K:2
3623	C:4
3624	B:3
3625	H:1
3626	H:1
3627	C:2 D:2 H:4 K:1
3628	F:6 K:2
3629	F:1 K:3
3630	K:1
3631	A:4
3632	C:1
3633	H:1
3634	H:1
3635	B:1
3636	H:1
3637	H:6
3638	F:1 K:1
3639	C:3
3640	C:1
3641	C:1
3642	B:1
3643	H:1
3644	F:1 K:3
3645	B:1
3646	H:1
3647	K:1
3648	H:1
3649	H:1
3650	A:2
3651	F:1
3652	A:1 B:4 C:2 D:1 F:1 H:3 K:1
3653	A:5
3654	H:1
3655	I:1
3656	C:1
3657	H:1
3658	F:1
3659	C:1
3660	H:1
3661	C:1
3662	B:2
3663	K:2
3664	A:9 B:6 C:73 D:5 F:122 H:112 K:44
3665	B:1
3666	A:7 B:2 C:24 D:3 F:67 H:58 K:25
3667	B:1
3668	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3669	B:1
3670	K:7
3671	C:3
3672	C:14 H:3
3673	C:1
3674	K:1
3675	C:1
3676	K:2
3677	K:1
3678	K:2
3679	F:8 K:1
3680	K:4
3681	F:6 K:4
3682	H:1
3683	D:1
3684	A:10
3685	A:2
3686	H:1
3687	K:1
3688	H:2
3689	K:3
3690	F:6
3691	K:12
3692	H:1
3693	D:1 H:1
3694	H:2
3695	H:1
3696	F:1
3697	K:2
3698	H:5
3699	K:2
3700	H:1
3701	F:3 K:25
3702	F:2 K:5
3703	C:14
3704	C:1
3705	A:1
3706	F:2 K:3
3707	H:1
3708	A:2 C:7 H:3 K:2
3709	A:1 B:2 C:1 H:2 K:1
3710	K:2
3711	F:3
3712	F:1 K:8
3713	F:2 H:1 K:14
3714	K:1
3715	B:2
3716	A:2 F:1 K:3
3717	A:1 C:7 K:7
3718	H:1
3719	F:2 K:11
3720	F:2 K:15
3721	K:2
3722	C:9
3723	F:6
3724	F:2
3725	H:1
3726	C:4
3727	F:1 K:3
3728	K:1
3729	H:1
3730	A:1
3731	F:2
3732	F:1 K:3
3733	F:3 K:1
3734	H:1
3735	H:1
3736	F:1
3737	H:1
3738	B:1 C:55 D:6 J:18
3739	C:4
3740	B:3
3741	K:1
3742	A:8 B:8 C:16 D:3 F:9 H:6 I:3 K:5
3743	A:2
3744	A:9 B:12 C:18 D:1 H:4 K:1
3745	D:1
3746	H:3
3747	B:1
3748	C:1 D:2 H:2
3749	A:1 B:3 C:11 D:1 H:2
3750	A:1 B:4 C:1
3751	A:1 B:1 H:1
3752	F:1
3753	A:3 B:5 C:9 D:4 H:7 I:1 K:1
3754	A:5 F:1
3755	K:1
3756	A:3 C:21 D:1
3757	C:1 H:2
3758	B:1
3759	A:3 B:5 D:2 H:3 I:1
3760	F:3
3761	B:3
3762	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3763	C:4
3764	B:2
3765	K:1
3766	A:2 B:2
3767	H:1 K:1
3768	K:1
3769	F:2
3770	E:1
3771	C:4 F:6 H:2 I:1 K:4
3772	B:3
3773	F:2
3774	A:1 B:6 C:1 D:1 H:1
3775	C:27 J:2
3776	A:4 B:5 C:9 D:2 I:1
3777	K:2
3778	A:4 F:11 H:6 K:1
3779	A:11 B:26 C:69 D:8 F:2 H:4 I:1 J:4 K:3
3780	A:11 B:27 C:77 D:9 F:2 H:4 I:1 J:5 K:3
3781	H:1 K:1
3782	F:1 K:1
3783	H:1
3784	K:3
3785	F:4
3786	F:10 K:8
3787	F:2
3788	K:2
3789	A:2
3790	A:4
3791	B:6
3792	A:9
3793	A:130 B:1 C:1 H:2 I:1
3794	A:155 B:3 C:1 H:2 I:3
3795	A:1
3796	H:1
3797	A:1
3798	A:1
3799	A:1
3800	F:1
3801	A:7
3802	A:7
3803	A:11 C:1 F:1 H:1 K:3
3804	K:1
3805	H:1
3806	H:1
3807	A:1 C:5

Seq Id No.	Tissue distribution
3808	F:1 K:1
3809	A:4 B:1 C:1 H:1 I:2
3810	F:2
3811	F:1 K:6
3812	K:2
3813	C:5
3814	A:2 B:1
3815	A:2
3816	A:2
3817	A:1 H:1
3818	B:1 K:1
3819	B:2
3820	B:2
3821	B:2
3822	C:21
3823	K:1
3824	F:1
3825	A:2
3826	A:15 B:30 C:26 F:1 H:3 K:1
3827	F:13 K:76
3828	K:1
3829	A:3 D:1 F:5 K:9
3830	F:1 K:10
3831	H:2
3832	A:1
3833	H:1
3834	K:2
3835	K:2
3836	H:1
3837	K:2
3838	H:1
3839	A:1 F:7 K:16
3840	A:1 F:5 K:16
3841	H:1
3842	K:1
3843	K:1
3844	F:1
3845	H:2
3846	A:2
3847	A:1
3848	A:55
3849	A:1
3850	A:1
3851	A:1
3852	A:1
3853	A:1
3854	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
3855	A:1
3856	A:1
3857	A:1
3858	A:1
3859	A:1
3860	A:2
3861	B:3
3862	C:1
3863	H:1
3864	B:2
3865	A:1 H:9
3866	B:4
3867	F:1
3868	F:4 K:13
3869	I:1
3870	F:1 K:1
3871	F:1
3872	I:1
3873	H:1
3874	A:8
3875	H:1
3876	H:1
3877	H:1
3878	H:1
3879	K:1
3880	A:8
3881	H:1
3882	A:3 B:4 C:2
3883	H:1
7744	H:1
7745	H:1
7746	H:1
7747	H:1
7748	H:1
7749	H:1
7750	H:1
7751	H:1
7752	H:1
7753	H:1
7754	H:1
7755	H:1
7756	H:1
7757	H:1
7758	H:1
7759	H:1
7760	H:1
7761	H:1
7762	H:1
7763	H:1
7764	H:1
7765	H:1
7766	H:1
7767	H:1
7768	H:1
7769	H:1
7770	H:1
7771	H:1
7772	H:1
7773	H:1
7774	H:1
7775	H:1
7776	H:1
7777	H:1
7778	H:1
7779	H:1
7780	H:1
7781	H:1
7782	H:1
7783	H:1
7784	H:1
7785	H:1
7786	H:1
7787	H:1
7788	H:1
7789	H:1
7790	H:1
7791	H:1
7792	H:1
7793	H:1
7794	H:1
7795	H:1
7796	H:1
7797	H:1
7798	H:1
7799	H:1
7800	H:1
7801	H:1
7802	H:1
7803	H:1
7804	H:1
7805	H:1
7806	H:1
7807	H:1
7808	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
7809	H:1
7810	H:1
7811	H:1
7812	H:1
7813	H:1
7814	H:1
7815	H:1
7816	H:1
7817	H:1
7818	H:1
7819	H:11
7820	H:1
7821	H:1
7822	H:1
7823	H:1
7824	H:1
7825	H:1
7826	H:1
7827	H:1
7828	F:1 K:3
7829	H:1
7830	H:1
7831	H:1
7832	H:1
7833	H:1
7834	H:1
7835	H:1
7836	H:1
7837	F:1 K:3
7838	H:1
7839	H:1
7840	H:1
7841	H:1
7842	H:1
7843	H:1
7844	H:1
7845	F:1 K:3
7846	H:1
7847	H:1
7848	H:1
7849	H:1
7850	H:1
7851	F:1 K:1
7852	H:1
7853	H:1
7854	H:1
7855	H:1

Seq Id No.	Tissue distribution
7856	H:1
7857	H:1
7858	H:1
7859	H:1
7860	H:1
7861	H:1
7862	H:1
7863	H:1
7864	H:1
7865	H:1
7866	H:1
7867	H:1
7868	H:1
7869	H:1
7870	H:1
7871	H:1
7872	F:25 K:136
7873	H:1
7874	H:1
7875	H:1
7876	H:1
7877	H:1
7878	H:1
7879	H:1
7880	H:1
7881	H:1
7882	H:1
7883	H:1
7884	H:1
7885	H:1
7886	H:1
7887	H:1
7888	H:1
7889	H:1
7890	H:1
7891	H:1
7892	H:1
7893	H:1
7894	H:1
7895	H:1
7896	H:1
7897	H:1
7898	H:1
7899	H:1
7900	H:1
7901	H:1
7902	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
7903	H:1
7904	H:1
7905	H:1
7906	H:1
7907	H:1
7908	H:1
7909	H:1
7910	H:1
7911	H:1
7912	H:1
7913	H:1
7914	H:1
7915	H:1
7916	H:1
7917	H:1
7918	H:1
7919	H:1
7920	A:1 B:1 D:1 E:1 F:1
7921	H:1
7922	H:1
7923	H:1
7924	H:1
7925	H:1
7926	H:1
7927	H:1
7928	H:1
7929	H:1
7930	H:1
7931	H:1
7932	H:1
7933	H:1
7934	H:1
7935	H:1
7936	H:1
7937	H:1
7938	H:1
7939	H:1
7940	H:1
7941	H:1
7942	H:1
7943	H:1
7944	H:1
7945	H:2
7946	H:1
7947	H:1
7948	H:1
7949	H:1
7950	H:1
7951	H:1
7952	H:1
7953	H:1
7954	H:1
7955	H:1
7956	H:1
7957	H:1
7958	H:1
7959	H:1
7960	H:1
7961	H:1
7962	H:1
7963	B:7
7964	H:1
7965	H:1
7966	H:1
7967	H:1
7968	H:1
7969	H:1
7970	H:1
7971	H:1
7972	H:1
7973	H:1
7974	H:1
7975	H:1
7976	H:1
7977	H:1
7978	H:1
7979	H:1
7980	H:1
7981	H:1
7982	H:1
7983	H:1
7984	H:1
7985	H:1
7986	H:1
7987	H:1
7988	H:1
7989	H:1
7990	H:1
7991	F:1 K:3
7992	H:1
7993	H:1
7994	H:1
7995	H:1
7996	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
7997	H:1
7998	H:1
7999	H:1
8000	H:1
8001	H:1
8002	H:1
8003	H:1
8004	H:1
8005	B:1
8006	H:1
8007	H:1
8008	H:1
8009	H:1
8010	H:1
8011	H:1
8012	H:1
8013	H:1
8014	H:1
8015	B:1
8016	H:1
8017	H:1
8018	H:1
8019	H:1
8020	H:1
8021	H:1
8022	H:1
8023	H:1
8024	H:1
8025	H:1
8026	H:1
8027	H:1
8028	H:1
8029	H:1
8030	H:1
8031	H:1
8032	H:1
8033	H:1
8034	H:1
8035	H:1
8036	H:1
8037	H:1
8038	H:1
8039	H:1
8040	H:1
8041	H:1
8042	H:1
8043	H:1
8044	H:1
8045	H:1
8046	H:1
8047	H:1
8048	H:1
8049	H:1
8050	H:1
8051	H:1
8052	H:1
8053	H:1
8054	H:1
8055	H:1
8056	H:1
8057	H:1
8058	H:1
8059	H:1
8060	H:1
8061	H:1
8062	H:1
8063	H:1
8064	H:1
8065	H:1
8066	H:1
8067	H:1
8068	H:1
8069	H:1
8070	H:1
8071	H:1
8072	H:1
8073	H:1
8074	H:1
8075	H:1
8076	H:1
8077	H:1
8078	H:1
8079	H:1
8080	H:1
8081	H:1
8082	H:1
8083	A:1
8084	H:1
8085	H:1
8086	H:1
8087	H:1
8088	H:1
8089	H:1
8090	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8091	H:1
8092	H:1
8093	H:1
8094	H:1
8095	H:1
8096	H:1
8097	H:1
8098	H:1
8099	H:1
8100	H:1
8101	H:1
8102	H:1
8103	H:1
8104	C:1
8105	H:1
8106	H:1
8107	H:1
8108	H:1
8109	H:1
8110	H:1
8111	H:1
8112	H:1
8113	H:1
8114	H:1
8115	H:1
8116	H:1
8117	H:1
8118	H:1
8119	H:1
8120	H:1
8121	H:1
8122	H:1
8123	H:1
8124	H:1
8125	F:1
8126	H:1
8127	H:1
8128	H:1
8129	H:1
8130	H:1
8131	H:1
8132	H:1
8133	H:1
8134	H:1
8135	H:1
8136	H:1
8137	H:1

Seq Id No.	Tissue distribution
8138	H:1
8139	H:1
8140	H:1
8141	H:1
8142	H:1
8143	K:1
8144	H:1
8145	H:1
8146	H:1
8147	H:1
8148	H:1
8149	H:1
8150	H:1
8151	H:1
8152	H:1
8153	H:1
8154	H:1
8155	H:1
8156	H:1
8157	H:1
8158	H:1
8159	H:1
8160	H:1
8161	H:1
8162	H:1
8163	H:1
8164	H:1
8165	H:1
8166	H:1
8167	H:1
8168	H:1
8169	H:1
8170	H:1
8171	H:1
8172	H:1
8173	H:1
8174	H:1
8175	H:1
8176	H:1
8177	H:1
8178	H:1
8179	H:1
8180	H:1
8181	H:1
8182	H:1
8183	H:1
8184	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8185	H:1
8186	H:1
8187	H:1
8188	H:1
8189	H:1
8190	H:1
8191	H:1
8192	C:1
8193	H:1
8194	H:1
8195	H:1
8196	H:1
8197	H:1
8198	H:1
8199	H:1
8200	H:1
8201	H:1
8202	H:1
8203	H:1
8204	H:1
8205	H:1
8206	H:1
8207	H:1
8208	H:1
8209	H:1
8210	H:1
8211	H:1
8212	H:1
8213	H:1
8214	H:1
8215	H:1
8216	H:1
8217	H:1
8218	H:1
8219	H:1
8220	H:1
8221	H:1
8222	H:1
8223	H:1
8224	H:1
8225	H:1
8226	H:1
8227	H:1
8228	H:1
8229	H:1
8230	H:1
8231	H:1
8232	H:1
8233	K:1
8234	H:1
8235	H:1
8236	H:1
8237	H:1
8238	H:1
8239	H:1
8240	H:1
8241	H:1
8242	K:2
8243	H:1
8244	H:1
8245	H:1
8246	H:1
8247	H:1
8248	H:1
8249	H:1
8250	H:1
8251	H:1
8252	H:1
8253	H:1
8254	H:1
8255	H:1
8256	H:1
8257	H:1
8258	H:1
8259	H:1
8260	H:1
8261	H:1
8262	H:1
8263	H:1
8264	H:1
8265	H:1
8266	H:1
8267	H:1
8268	H:1
8269	H:1
8270	H:1
8271	H:1
8272	H:1
8273	H:1
8274	H:1
8275	H:1
8276	H:1
8277	H:1
8278	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8279	H:1
8280	H:1
8281	H:1
8282	H:1
8283	H:1
8284	H:1
8285	H:1
8286	H:1
8287	H:1
8288	H:1
8289	H:1
8290	H:1
8291	H:1
8292	C:6
8293	H:1
8294	H:1
8295	H:1
8296	H:1
8297	H:1
8298	H:1
8299	H:1
8300	H:1
8301	H:1
8302	H:1
8303	H:1
8304	H:1
8305	H:1
8306	H:1
8307	I:1
8308	H:1
8309	H:1
8310	H:1
8311	H:1
8312	H:1
8313	H:1
8314	H:1
8315	H:1
8316	H:1
8317	H:1
8318	H:1
8319	H:1
8320	H:1
8321	H:1
8322	H:1
8323	H:1
8324	K:2
8325	H:1
8326	H:1
8327	H:1
8328	H:1
8329	H:1
8330	H:1
8331	H:1
8332	H:1
8333	H:1
8334	H:1
8335	H:1
8336	H:1
8337	H:1
8338	H:1
8339	H:1
8340	H:1
8341	H:1
8342	H:1
8343	H:1
8344	H:1
8345	H:1
8346	H:1
8347	H:1
8348	H:1
8349	H:1
8350	H:1
8351	C:2 J:2
8352	H:1
8353	H:1
8354	H:1
8355	H:1
8356	H:1
8357	H:1
8358	H:1
8359	H:1
8360	H:1
8361	H:1
8362	H:1
8363	H:1
8364	H:1
8365	H:1
8366	H:1
8367	H:1
8368	H:1
8369	H:1
8370	H:1
8371	H:1
8372	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8373	H:1
8374	H:1
8375	H:1
8376	H:1
8377	F:1 K:2
8378	H:1
8379	H:1
8380	H:1
8381	H:1
8382	H:1
8383	H:1
8384	H:1
8385	B:2
8386	H:1
8387	H:1
8388	H:1
8389	H:1
8390	H:1
8391	H:1
8392	H:1
8393	H:2
8394	H:1
8395	H:1
8396	H:1
8397	H:1
8398	H:1
8399	H:1
8400	H:1
8401	F:5 K:2
8402	H:1
8403	H:1
8404	H:1
8405	H:1
8406	H:1
8407	H:1
8408	H:1
8409	H:1
8410	H:1
8411	H:1
8412	H:1
8413	K:2
8414	H:1
8415	H:1
8416	H:1
8417	H:1
8418	H:1
8419	H:1

Seq Id No.	Tissue distribution
8420	H:1
8421	A:5
8422	H:1
8423	H:1
8424	H:1
8425	H:1
8426	H:1
8427	H:1
8428	H:1
8429	H:1
8430	H:1
8431	H:1
8432	H:1
8433	H:1
8434	H:1
8435	H:1
8436	K:3
8437	H:1
8438	H:1
8439	H:1
8440	H:1
8441	H:1
8442	H:1
8443	H:1
8444	H:1
8445	H:1
8446	H:1
8447	H:1
8448	H:1
8449	H:1
8450	H:1
8451	H:1
8452	F:1 K:1
8453	H:1
8454	H:1
8455	H:1
8456	H:1
8457	H:1
8458	H:1
8459	H:1
8460	H:1
8461	H:1
8462	H:1
8463	H:1
8464	H:1
8465	H:1
8466	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8467	H:1
8468	H:1
8469	H:1
8470	H:1
8471	H:1
8472	H:1
8473	H:1
8474	H:1
8475	H:1
8476	H:1
8477	D:1 F:1
8478	H:1
8479	H:1
8480	H:1
8481	H:1
8482	H:1
8483	H:1
8484	H:1
8485	H:1
8486	H:1
8487	H:1
8488	H:1
8489	H:1
8490	H:1
8491	H:1
8492	H:1
8493	H:1
8494	H:1
8495	H:1
8496	H:1
8497	H:1
8498	H:1
8499	H:1
8500	H:1
8501	H:1
8502	H:1
8503	H:1
8504	H:1
8505	H:1
8506	H:1
8507	H:1
8508	A:7
8509	H:1
8510	H:1
8511	H:1
8512	H:1
8513	H:1

Seq Id No.	Tissue distribution
8514	H:1
8515	H:1
8516	H:1
8517	H:1
8518	H:1
8519	H:1
8520	H:1
8521	H:1
8522	H:1
8523	H:1
8524	H:1
8525	H:1
8526	H:1
8527	H:1
8528	H:1
8529	F:1 K:2
8530	H:1
8531	H:1
8532	H:1
8533	H:1
8534	H:1
8535	H:1
8536	H:1
8537	H:1
8538	F:1 K:3
8539	H:1
8540	H:1
8541	H:1
8542	H:1
8543	H:1
8544	H:1
8545	H:1
8546	H:1
8547	H:1
8548	H:1
8549	H:1
8550	H:1
8551	H:1
8552	H:1
8553	H:1
8554	H:1
8555	H:1
8556	H:1
8557	H:1
8558	H:1
8559	H:1
8560	H:4

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8561	H:1
8562	H:1
8563	H:1
8564	H:1
8565	H:1
8566	H:1
8567	H:1
8568	H:1
8569	H:1
8570	H:1
8571	H:1
8572	H:1
8573	H:1
8574	H:1
8575	H:1
8576	H:1
8577	H:1
8578	H:1
8579	H:1
8580	H:1
8581	H:1
8582	H:1
8583	H:1
8584	H:1
8585	H:1
8586	I:2
8587	H:1
8588	H:1
8589	H:1
8590	H:1
8591	H:1
8592	H:1
8593	H:1
8594	H:1
8595	H:1
8596	H:1
8597	H:1
8598	H:1
8599	H:1
8600	H:1
8601	H:1
8602	H:1
8603	H:1
8604	H:1
8605	H:1
8606	H:1
8607	H:1
8608	H:1
8609	H:1
8610	H:1
8611	H:1
8612	H:1
8613	H:1
8614	H:1
8615	H:1
8616	H:1
8617	H:1
8618	H:1
8619	H:1
8620	H:1
8621	H:1
8622	H:1
8623	H:1
8624	H:1
8625	H:1
8626	H:1
8627	A:2
8628	H:1
8629	H:1
8630	H:1
8631	H:1
8632	H:1
8633	H:1
8634	H:1
8635	H:1
8636	H:1
8637	H:1
8638	H:1
8639	H:1
8640	H:1
8641	H:1
8642	H:1
8643	H:1
8644	H:1
8645	H:1
8646	H:1
8647	H:1
8648	H:1
8649	H:1
8650	H:1
8651	H:1
8652	H:1
8653	H:1
8654	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8655	H:1
8656	H:1
8657	H:1
8658	H:1
8659	H:1
8660	H:1
8661	H:1
8662	H:1
8663	H:1
8664	H:1
8665	H:1
8666	H:1
8667	A:1
8668	H:1
8669	H:1
8670	H:1
8671	H:1
8672	H:1
8673	H:1
8674	H:1
8675	H:1
8676	H:1
8677	H:1
8678	A:1
8679	H:1
8680	H:1
8681	H:1
8682	H:1
8683	H:1
8684	H:1
8685	H:1
8686	H:1
8687	H:1
8688	H:1
8689	B:2
8690	A:1
8691	H:1
8692	H:1
8693	H:1
8694	H:1
8695	H:1
8696	H:1
8697	H:1
8698	H:1
8699	A:1
8700	H:1
8701	H:1
8702	H:1
8703	H:1
8704	H:1
8705	H:1
8706	H:1
8707	H:1
8708	H:1
8709	H:1
8710	A:1
8711	H:1
8712	H:1
8713	H:1
8714	H:1
8715	H:1
8716	H:1
8717	H:1
8718	H:1
8719	H:1
8720	H:1
8721	A:1
8722	H:1
8723	H:1
8724	H:1
8725	H:1
8726	H:1
8727	H:1
8728	H:1
8729	H:1
8730	H:1
8731	H:1
8732	A:1
8733	H:1
8734	H:1
8735	H:1
8736	H:1
8737	H:1
8738	H:1
8739	H:1
8740	H:1
8741	H:1
8742	B:1
8743	H:1
8744	H:1
8745	H:1
8746	H:1
8747	H:1
8748	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8749	H:1
8750	H:1
8751	A:1
8752	H:1
8753	H:1
8754	H:1
8755	H:1
8756	H:1
8757	H:1
8758	A:1
8759	H:1
8760	H:1
8761	H:1
8762	H:1
8763	H:1
8764	H:1
8765	H:1
8766	H:1
8767	H:1
8768	B:1
8769	H:1
8770	H:1
8771	H:1
8772	H:1
8773	H:1
8774	H:1
8775	H:1
8776	H:1
8777	A:1
8778	H:1
8779	H:1
8780	H:1
8781	H:1
8782	H:1
8783	H:1
8784	H:1
8785	H:1
8786	B:1
8787	H:1
8788	H:1
8789	H:1
8790	H:1
8791	H:1
8792	H:1
8793	H:1
8794	H:1
8795	H:1

Seq Id No.	Tissue distribution
8796	H:1
8797	H:1
8798	H:1
8799	H:1
8800	H:1
8801	H:1
8802	H:1
8803	H:1
8804	H:1
8805	K:1
8806	H:1
8807	H:1
8808	H:1
8809	H:1
8810	H:1
8811	H:1
8812	H:1
8813	K:1
8814	H:1
8815	H:1
8816	H:1
8817	H:1
8818	H:1
8819	H:1
8820	H:1
8821	H:2
8822	H:1
8823	H:1
8824	H:1
8825	H:1
8826	H:1
8827	H:1
8828	H:1
8829	H:1
8830	C:20
8831	H:1
8832	H:1
8833	H:1
8834	H:1
8835	H:1
8836	H:1
8837.	H:1
8838	H:1
8839	H:1
8840	H:1
8841	C:2
8842	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8843	H:1
8844	H:1
8845	H:1
8846	H:1
8847	H:1
8848	H:1
8849	H:1
8850	H:1
8851	H:1
8852	H:1
8853	H:1
8854	H:1
8855	H:1
8856	H:1
8857	H:1
8858	H:1
8859	H:1
8860	H:1
8861	H:1
8862	C:7
8863	H:1
8864	H:1
8865	H:1
8866	H:1
8867	H:1
8868	H:1
8869	H:1
8870	H:1
8871	H:1
8872	H:1
8873	D:1
8874	H:1
8875	H:1
8876	H:1
8877	H:1
8878	H:1
8879	H:1
8880	H:1
8881	H:1
8882	H:1
8883	H:1
8884	C:58
8885	F:1 K:1
8886	H:1
8887	H:1
8888	H:1
8889	H:1
8890	H:1
8891	H:1
8892	H:1
8893	H:1
8894	H:1
8895	H:1
8896	H:1
8897	H:1
8898	H:1
8899	H:1
8900	H:1
8901	H:1
8902	H:1
8903	H:1
8904	H:1
8905	B:4
8906	H:1
8907	H:1
8908	H:1
8909	H:1
8910	H:1
8911	H:1
8912	H:1
8913	H:1
8914	H:1
8915	H:1
8916	H:1
8917	H:1
8918	H:1
8919	H:1
8920	H:1
8921	H:1
8922	H:1
8923	H:1
8924	H:1
8925	H:1
8926	H:1
8927	H:1
8928	H:1
8929	H:1
8930	H:1
8931	H:1
8932	H:1
8933	H:1
8934	H:1
8935	H:1
8936	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
8937	H:1
8938	H:1
8939	H:1
8940	H:1
8941	H:1
8942	H:1
8943	H:1
8944	H:1
8945	H:1
8946	H:1
8947	H:1
8948	H:1
8949	H:1
8950	H:1
8951	H:1
8952	H:1
8953	H:1
8954	H:1
8955	F:2 K:1
8956	H:1
8957	H:1
8958	H:1
8959	H:1
8960	H:1
8961	H:1
8962	H:1
8963	H:1
8964	H:1
8965	H:1
8966	H:1
8967	H:1
8968	H:1
8969	H:1
8970	H:1
8971	H:1
8972	H:1
8973	H:1
8974	H:1
8975	H:1
8976	K:2
8977	H:1
8978	H:1
8979	H:1
8980	H:1
8981	H:1
8982	H:1
8983	H:1
8984	H:1
8985	H:1
8986	K:1
8987	H:1
8988	H:1
8989	H:1
8990	H:1
8991	H:1
8992	F:2 K:1
8993	H:1
8994	H:1
8995	H:1
8996	H:1
8997	H:1
8998	H:1
8999	H:1
9000	H:1
9001	H:1
9002	H:1
9003	H:1
9004	H:1
9005	H:1
9006	H:1
9007	H:1
9008	H:1
9009	H:1
9010	H:1
9011	H:1
9012	H:1
9013	H:1
9014	H:1
9015	H:1
9016	I:2
9017	H:1
9018	H:1
9019	H:1
9020	H:1
9021	H:1
9022	H:1
9023	H:1
9024	B:2
9025	H:1
9026	H:1
9027	H:1
9028	H:1
9029	H:1
9030	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9031	H:1
9032	H:1
9033	H:1
9034	H:1
9035	H:1
9036	H:1
9037	H:1
9038	H:1
9039	H:1
9040	H:1
9041	H:1
9042	H:1
9043	H:1
9044	H:1
9045	H:1
9046	H:1
9047	H:1
9048	H:1
9049	H:1
9050	H:1
9051	H:1
9052	H:1
9053	H:1
9054	H:1
9055	H:1
9056	H:1
9057	H:1
9058	H:1
9059	H:1
9060	H:1
9061	H:1
9062	H:1
9063	H:1
9064	F:1 K:2
9065	H:1
9066	H:1
9067	H:1
9068	H:1
9069	H:1
9070	H:1
9071	H:1
9072	H:1
9073	H:1
9074	H:1
9075	H:1
9076	H:1
9077	H:1

Seq Id No.	Tissue distribution
9078	H:1
9079	H:1
9080	H:1
9081	H:1
9082	H:1
9083	H:1
9084	H:1
9085	H:1
9086	H:1
9087	H:1
9088	H:1
9089	H:1
9090	H:1
9091	H:1
9092	H:1
9093	F:19 K:3
9094	H:1
9095	H:1
9096	H:1
9097	F:5 K:2
9098	H:1
9099	H:1
9100	H:1
9101	H:1
9102	H:1
9103	H:1
9104	H:1
9105	H:1
9106	H:1
9107	H:1
9108	H:1
9109	H:1
9110	H:1
9111	H:1
9112	H:1
9113	H:1
9114	H:1
9115	H:1
9116	H:1
9117	H:1
9118	H:1
9119	H:1
9120	H:1
9121	B:3
9122	H:1
9123	H:1
9124	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9125	H:1
9126	H:1
9127	H:1
9128	H:1
9129	H:1
9130	H:1
9131	H:1
9132	H:1
9133	H:1
9134	H:1
9135	H:1
9136	H:1
9137	H:1
9138	H:1
9139	H:1
9140	H:1
9141	H:1
9142	H:1
9143	H:1
9144	H:1
9145	H:1
9146	H:1
9147	H:1
9148	H:1
9149	H:1
9150	H:1
9151	H:1
9152	H:1
9153	H:1
9154	H:1
9155	H:1
9156	H:1
9157	H:1
9158	H:1
9159	H:1
9160	H:1
9161	H:1
9162	H:1
9163	H:1
9164	H:1
9165	H:1
9166	H:1
9167	H:1
9168	H:1
9169	H:1
9170	H:1
9171	H:1
9172	H:1
9173	H:1
9174	H:1
9175	H:1
9176	H:1
9177	A:182 K:2
9178	H:1
9179	H:1
9180	H:1
9181	H:1
9182	H:1
9183	H:1
9184	H:1
9185	A:186 K:2
9186	H:1
9187	H:1
9188	H:1
9189	H:1
9190	H:1
9191	H:1
9192	C:5
9193	H:1
9194	H:1
9195	H:1
9196	H:1
9197	H:1
9198	H:1
9199	H:1
9200	H:1
9201	H:1
9202	H:1
9203	H:1
9204	H:1
9205	H:1
9206	H:1
9207	H:1
9208	A:2
9209	H:1
9210	H:1
9211	H:1
9212	H:1
9213	H:1
9214	H:1
9215	H:1
9216	H:1
9217	C:32
9218	A:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9219	H:1
9220	H:1
9221	H:1
9222	H:1
9223	H:1
9224	H:1
9225	H:1
9226	H:1
9227	H:1
9228	H:1
9229	H:1
9230	H:1
9231	H:1
9232	H:1
9233	H:1
9234	H:1
9235	H:1
9236	H:1
9237	H:1
9238	H:1
9239	H:1
9240	K:1
9241	H:1
9242	H:1
9243	H:1
9244	H:1
9245	H:1
9246	H:1
9247	H:1
9248	H:1
9249	H:1
9250	H:1
9251	H:1
9252	H:1
9253	H:1
9254	H:1
9255	H:1
9256	F:14 K:7
9257	H:1
9258	H:1
9259	H:1
9260	H:1
9261	H:1
9262	H:1
9263	H:1
9264	H:1
9265	H:1

Seq Id No.	Tissue distribution
9266	H:1
9267	H:1
9268	H:1
9269	H:1
9270	H:1
9271	H:1
9272	H:1
9273	H:1
9274	H:1
9275	H:1
9276	H:1
9277	H:1
9278	H:1
9279	F:5 K:3
9280	H:1
9281	H:1
9282	H:1
9283	H:1
9284	H:1
9285	H:1
9286	H:1
9287	H:1
9288	H:1
9289	H:1
9290	H:1
9291	H:1
9292	H:1
9293	H:1
9294	H:1
9295	H:1
9296	H:1
9297	H:1
9298	C:1
9299	K:2
9300	H:1
9301	H:1
9302	H:1
9303	H:1
9304	H:1
9305	H:1
9306	H:1
9307	C:6
9308	H:1
9309	H:1
9310	H:1
9311	H:1
9312	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9313	H:1
9314	H:1
9315	H:1
9316	H:1
9317	H:1
9318	H:1
9319	H:1
9320	H:1
9321	H:1
9322	H:1
9323	H:1
9324	H:1
9325	H:1
9326	H:1
9327	H:1
9328	H:1
9329	H:1
9330	H:1
9331	H:1
9332	H:1
9333	H:1
9334	H:1
9335	H:1
9336	H:1
9337	H:1
9338	H:1
9339	A:2
9340	H:1
9341	H:1
9342	H:1
9343	H:1
9344	H:1
9345	H:1
9346	H:1
9347	H:1
9348	H:1
9349	H:1
9350	H:1
9351	H:1
9352	H:1
9353	H:1
9354	H:1
9355	H:1
9356	H:1
9357	F:1 K:1
9358	H:1
9359	H:1
9360	H:1
9361	H:1
9362	A:4
9363	H:1
9364	H:1
9365	H:1
9366	H:1
9367	H:1
9368	H:1
9369	H:1
9370	H:1
9371	H:1
9372	C:1
9373	H:1
9374	H:1
9375	H:1
9376	H:1
9377	H:1
9378	H:1
9379	H:1
9380	C:1
9381	H:1
9382	H:1
9383	H:1
9384	H:1
9385	H:1
9386	H:1
9387	H:1
9388	H:1
9389	H:1
9390	H:1
9391	H:1
9392	H:1
9393	H:1
9394	H:1
9395	H:1
9396	F:14 K:89
9397	H:1
9398	H:1
9399	H:1
9400	H:1
9401	H:1
9402	H:1
9403	F:1 K:3
9404	H:1
9405	H:1
9406	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution	Seq Id No.	Tissue distribution
9407	H:1	9454	H:1
9408	H:1	9455	H:1
9409	H:1	9456	H:1
9410	H:1	9457	H:1
9411	F:55 K:295	9458	H:1
9412	H:1	9459	H:1
9413	H:1	9460	H:1
9414	H:1	9461	H:1
9415	H:1	9462	A:1 D:1
9416	H:1	9463	K:1
9417	H:1	9464	H:1
9418	H:1	9465	H:1
9419	H:1	9466	H:1
9420	F:11 K:4	9467	H:1
9421	H:1	9468	H:1
9422	H:1	9469	H:1
9423	H:1	9470	H:1
9424	H:1	9471	H:1
9425	H:1	9472	H:1
9426	H:1	9473	H:1
9427	H:1	9474	F:1
9428	K:1	9475	H:1
9429	H:1	9476	H:1
9430	H:1	9477	H:1
9431	H:1	9478	H:1
9432	H:1	9479	H:1
9433	H:1	9480	H:1
9434	H:1	9481	H:1
9435	K:1	9482	H:1
9436	H:1	9483	H:1
9437	H:1	9484	K:1
9438	H:1	9485	H:1
9439	H:1	9486	H:1
9440	H:1	9487	H:1
9441	H:1	9488	H:1
9442	H:1	9489	H:1
9443	H:1	9490	H:1
9444	K:1	9491	H:1
9445	H:1	9492	H:1
9446	H:1	9493	H:1
9447	H:1	9494	H:1
9448	H:1	9495	H:1
9449	H:1	9496	H:1
9450	H:1	9497	H:1
9451	H:1	9498	H:1
9452	H:1	9499	H:1
9453	F:1	9500	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9501	H:1
9502	H:1
9503	H:1
9504	H:1
9505	H:1
9506	H:1
9507	H:1
9508	H:1
9509	H:1
9510	F:1
9511	F:1
9512	F:1
9513	F:1
9514	F:1
9515	F:1
9516	F:1
9517	F:1
9518	K:1
9519	F:1
9520	F:1
9521	F:1
9522	F:1
9523	F:1
9524	F:1
9525	K:1
9526	F:1
9527	F:1
9528	F:1
9529	F:1
9530	F:1
9531	F:1
9532	K:1
9533	F:1
9534	F:1
9535	F:1
9536	F:1
9537	F:1
9538	F:1
9539	K:1
9540	F:1
9541	F:1
9542	F:1
9543	F:1
9544	F:1
9545	F:1
9546	A:2 F:1 K:3
9547	F:1
9548	F:1
9549	F:1
9550	F:1
9551	F:1
9552	F:1
9553	H:2
9554	F:1
9555	F:1
9556	F:1
9557	F:1
9558	F:1
9559	F:1
9560	F:1
9561	F:1
9562	F:1
9563	F:1
9564	F:1
9565	F:1
9566	F:1
9567	F:1
9568	F:1
9569	F:1
9570	F:1
9571	F:1
9572	F:1
9573	F:1
9574	F:1
9575	F:1
9576	F:1
9577	F:1
9578	F:1
9579	F:1
9580	F:1
9581	F:1
9582	F:1
9583	F:1
9584	F:1
9585	F:1
9586	F:1
9587	F:1
9588	F:1
9589	F:1
9590	F:1
9591	F:1
9592	F:1
9593	F:1
9594	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9595	F:1
9596	F:1
9597	K:2
9598	F:1
9599	F:1
9600	F:1
9601	F:1
9602	F:1
9603	F:1
9604	F:1
9605	F:1
9606	F:1
9607	F:1
9608	F:1
9609	F:1
9610	F:1
9611	F:1
9612	F:1
9613	F:1
9614	K:2
9615	F:1
9616	F:1
9617	F:1
9618	F:1
9619	F:1
9620	F:1
9621	F:1
9622	F:4 K:3
9623	F:1
9624	F:1
9625	F:1
9626	F:1
9627	F:1
9628	F:1
9629	F:1
9630	F:1
9631	F:1
9632	F:1
9633	F:4
9634	F:1
9635	F:1
9636	F:1
9637	F:1
9638	F:1
9639	F:1
9640	F:1
9641	F:1
9642	F:1
9643	C:4
9644	F:1
9645	F:1
9646	F:1
9647	F:1
9648	F:1
9649	F:1
9650	F:1
9651	F:1
9652	B:1 D:1
9653	F:1
9654	F:1
9655	F:1
9656	F:1
9657	F:1
9658	F:1
9659	F:1
9660	F:1
9661	F:1
9662	F:1
9663	F:1
9664	F:1
9665	F:1
9666	F:1
9667	F:1
9668	F:1
9669	H:2
9670	F:1
9671	F:1
9672	F:1
9673	F:1
9674	F:1
9675	F:1
9676	H:1
9677	A:2
9678	H:1
9679	H:1
9680	H:1
9681	H:1
9682	H:1
9683	H:1
9684	H:1
9685	H:1
9686	H:1
9687	H:1
9688	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9689	H:1
9690	H:1
9691	H:1
9692	H:1
9693	H:1
9694	H:1
9695	H:1
9696	H:1
9697	H:1
9698	H:1
9699	H:1
9700	H:1
9701	H:1
9702	H:1
9703	H:1
9704	H:1
9705	H:1
9706	H:1
9707	H:1
9708	H:1
9709	H:1
9710	H:1
9711	H:1
9712	H:1
9713	H:1
9714	H:1
9715	H:1
9716	H:1
9717	H:1
9718	H:1
9719	H:1
9720	H:1
9721	B:4 C:3
9722	H:1
9723	H:1
9724	H:1
9725	H:1
9726	H:1
9727	H:1
9728	K:1
9729	K:1
9730	K:1
9731	A:28
9732	K:1
9733	K:1
9734	K:1
9735	K:1
9736	K:1
9737	K:1
9738	K:1
9739	K:1
9740	K:1
9741	K:1
9742	K:1
9743	K:1
9744	K:1
9745	K:1
9746	K:1
9747	K:1
9748	F:1 K:1
9749	K:1
9750	K:1
9751	K:1
9752	K:1
9753	K:1
9754	K:1
9755	K:1
9756	K:1
9757	K:1
9758	K:1
9759	K:2
9760	K:1
9761	K:1
9762	K:1
9763	K:1
9764	K:1
9765	K:1
9766	K:1
9767	K:1
9768	K:1
9769	B:2
9770	K:1
9771	K:1
9772	K:1
9773	K:1
9774	K:1
9775	K:1
9776	K:1
9777	K:1
9778	K:1
9779	K:1
9780	B:1 C:8 F:1 H:1
9781	K:1
9782	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9783	K:1
9784	K:1
9785	K:1
9786	K:1
9787	K:1
9788	K:1
9789	K:1
9790	K:1
9791	K:1
9792	K:1
9793	K:1
9794	K:1
9795	K:1
9796	K:1
9797	K:1
9798	K:1
9799	K:1
9800	C:41
9801	K:1
9802	K:1
9803	K:1
9804	K:1
9805	K:1
9806	K:1
9807	K:1
9808	K:1
9809	K:1
9810	K:1
9811	K:1
9812	K:1
9813	K:1
9814	K:1
9815	K:1
9816	K:1
9817	K:1
9818	K:1
9819	K:1
9820	K:1
9821	K:1
9822	K:1
9823	K:1
9824	K:1
9825	K:1
9826	K:1
9827	K:1
9828	K:1
9829	K:1

Seq Id No.	Tissue distribution
9830	K:1
9831	K:1
9832	K:1
9833	K:1
9834	K:1
9835	K:1
9836	H:1 I:4
9837	K:1
9838	K:1
9839	K:1
9840	K:1
9841	K:1
9842	K:1
9843	K:1
9844	K:1
9845	K:1
9846	K:1
9847	K:1
9848	K:1
9849	K:1
9850	K:1
9851	K:1
9852	K:1
9853	H:1
9854	K:1
9855	K:1
9856	K:1
9857	K:1
9858	K:1
9859	K:1
9860	K:1
9861	B:3 C:2 D:2 F:1 K:2
9862	K:1
9863	K:1
9864	K:1
9865	K:1
9866	K:1
9867	K:1
9868	K:1
9869	K:1
9870	K:1
9871	A:1
9872	K:1
9873	K:1
9874	K:1
9875	K:1
9876	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9877	K:1
9878	K:1
9879	K:5
9880	F:6 K:33
9881	K:1
9882	K:1
9883	K:1
9884	K:1
9885	B:2 H:6
9886	K:1
9887	K:1
9888	K:1
9889	K:1
9890	K:1
9891	K:1
9892	K:1
9893	I:2
9894	K:1
9895	K:1
9896	K:1
9897	K:1
9898	K:1
9899	K:1
9900	K:1
9901	K:1
9902	K:1
9903	K:1
9904	K:1
9905	K:1
9906	K:1
9907	K:1
9908	K:1
9909	K:1
9910	K:1
9911	K:1
9912	A:1
9913	A:1
9914	A:1
9915	A:1
9916	A:1
9917	A:1
9918	A:1 B:1 C:20
9919	A:1
9920	A:1
9921	A:1
9922	A:1
9923	A:1
9924	A:1
9925	A:1
9926	A:1
9927	A:1
9928	A:1
9929	A:1
9930	A:1
9931	A:1
9932	A:1
9933	A:1
9934	A:1
9935	A:1
9936	A:1
9937	A:1
9938	A:1
9939	A:1
9940	A:1
9941	A:1
9942	A:1
9943	A:1
9944	A:1
9945	A:1
9946	A:1
9947	A:1
9948	A:1
9949	A:1
9950	A:1
9951	A:1
9952	A:1
9953	A:1
9954	A:1
9955	A:1
9956	A:1
9957	A:1
9958	A:1
9959	A:1
9960	A:1
9961	A:1
9962	A:1
9963	A:1
9964	F:1 K:1
9965	A:1
9966	A:1
9967	A:1
9968	A:1
9969	A:1
9970	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
9971	F:1
9972	F:1
9973	F:1
9974	F:1
9975	F:1
9976	F:1
9977	F:1
9978	F:1
9979	F:1
9980	F:1
9981	F:1
9982	F:1
9983	F:1
9984	F:1
9985	F:1
9986	F:1
9987	F:1
9988	A:7
9989	F:1
9990	F:1
9991	F:1
9992	F:1
9993	F:1
9994	F:1
9995	F:1
9996	F:1
9997	F:1
9998	F:1
9999	F:1
10000	F:1
10001	F:1
10002	F:1
10003	F:1
10004	F:1
10005	F:1
10006	F:1
10007	F:1
10008	F:1
10009	F:1
10010	F:1
10011	F:1
10012	F:1
10013	F:1
10014	F:1
10015	F:1
10016	F:1
10017	F:1

Seq Id No.	Tissue distribution
10018	F:1
10019	F:1
10020	F:1
10021	F:1
10022	F:1
10023	F:1
10024	F:1
10025	F:1
10026	F:1
10027	F:1
10028	F:1
10029	F:1
10030	F:1
10031	F:1
10032	A:1 C:4 H:1
10033	F:1
10034	F:1
10035	F:1
10036	F:1
10037	F:1
10038	F:1
10039	F:1
10040	F:1
10041	F:1
10042	A:2
10043	F:1
10044	F:1
10045	F:1
10046	F:1
10047	F:1
10048	F:1
10049	F:1
10050	F:1
10051	F:1
10052	F:1
10053	F:1
10054	F:1
10055	F:1
10056	F:1
10057	F:1
10058	F:1
10059	F:1
10060	F:1
10061	F:1
10062	F:1
10063	F:1
10064	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10065	F:1
10066	F:1
10067	F:1
10068	F:1
10069	F:1
10070	F:1
10071	F:1
10072	F:1
10073	F:1 K:1
10074	F:1
10075	F:1
10076	F:1
10077	F:1
10078	F:1
10079	C:4
10080	F:1
10081	F:1
10082	F:1
10083	F:1
10084	F:1
10085	F:1
10086	F:1
10087	F:1
10088	K:2
10089	F:1
10090	F:1
10091	F:1
10092	F:1
10093	F:1
10094	F:1
10095	F:1
10096	F:1
10097	F:1
10098	F:1
10099	F:1
10100	F:1
10101	F:1
10102	F:1
10103	F:1
10104	F:1
10105	F:1
10106	F:1 K:1
10107	F:1
10108	F:1
10109	F:1
10110	F:1
10111	F:1

Seq Id No.	Tissue distribution
10112	F:1
10113	F:1
10114	F:1
10115	F:1
10116	F:1
10117	F:1
10118	F:1
10119	F:1
10120	F:1
10121	F:1
10122	F:1
10123	F:1
10124	F:1
10125	F:1
10126	F:1
10127	F:1
10128	F:1
10129	F:1
10130	F:1
10131	F:1
10132	F:1
10133	F:1
10134	F:1
10135	F:1
10136	F:1
10137	F:1
10138	F:1
10139	F:1
10140	F:1
10141	F:1
10142	F:1
10143	F:1
10144	F:1
10145	F:1
10146	F:1
10147	F:1
10148	F:1
10149	F:1
10150	F:1
10151	F:1
10152	F:1
10153	F:9 K:1
10154	F:1
10155	F:1
10156	F:1
10157	F:1
10158	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10159	F:1
10160	F:1
10161	F:1
10162	F:1
10163	F:1
10164	F:1
10165	F:1
10166	F:1
10167	F:1
10168	F:1
10169	F:1
10170	F:1
10171	F:1
10172	F:1
10173	F:1
10174	F:1
10175	F:1
10176	F:1
10177	F:1
10178	F:10 K:4
10179	F:1
10180	F:1
10181	F:1
10182	F:1
10183	F:1
10184	F:1
10185	K:1
10186	F:1
10187	F:1
10188	F:1
10189	F:1
10190	F:1
10191	F:1
10192	F:1
10193	K:1
10194	F:1
10195	F:1
10196	F:1
10197	F:1
10198	F:1
10199	F:1
10200	F:1
10201	F:1
10202	F:1
10203	F:1
10204	F:1
10205	F:1
10206	F:1
10207	F:1
10208	F:1
10209	F:1
10210	F:1
10211	F:1
10212	F:1
10213	F:1
10214	F:1
10215	F:1
10216	F:1
10217	F:1
10218	F:1
10219	F:1
10220	F:1
10221	F:1
10222	F:1
10223	F:1
10224	F:1
10225	F:1
10226	K:1
10227	K:1
10228	K:1
10229	F:1
10230	K:1
10231	K:1
10232	K:1
10233	K:1
10234	K:1
10235	K:1
10236	K:1
10237	F:1
10238	K:1
10239	K:1
10240	K:1
10241	K:1
10242	K:1
10243	K:1
10244	K:1
10245	K:1
10246	K:1
10247	K:1
10248	F:1
10249	K:1
10250	K:1
10251	K:1
10252	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10253	K:1
10254	K:1
10255	K:1
10256	K:1
10257	K:1
10258	F:1
10259	K:1
10260	K:1
10261	K:1
10262	K:1
10263	K:1
10264	K:1
10265	K:1
10266	K:1
10267	K:1
10268	K:1
10269	F:1
10270	K:1
10271	K:1
10272	K:1
10273	K:1
10274	K:1
10275	K:1
10276	K:1
10277	K:1
10278	F:1
10279	K:1
10280	K:1
10281	K:1
10282	K:1
10283	K:1
10284	K:1
10285	K:1
10286	F:1
10287	K:1
10288	K:1
10289	K:1
10290	K:1
10291	K:1
10292	K:1
10293	K:1
10294	K:1
10295	A:13 B:18 C:60 D:6 F:3 H:53 I:1 K:7
10296	A:6
10297	F:1
10298	K:1
10299	K:1
10300	K:1
10301	K:1
10302	K:1
10303	K:1
10304	K:1
10305	K:1
10306	F:1
10307	K:1
10308	K:1
10309	K:1
10310	K:1
10311	K:1
10312	K:1
10313	K:1
10314	K:1
10315	K:1
10316	K:1
10317	K:1
10318	K:1
10319	K:1
10320	K:1
10321	K:1
10322	K:1
10323	K:1
10324	K:1
10325	K:1
10326	K:1
10327	K:1
10328	K:1
10329	K:1
10330	K:1
10331	F:1 K:1
10332	K:1
10333	K:1
10334	K:1
10335	K:1
10336	K:1
10337	K:1
10338	K:1
10339	F:9 K:3
10340	K:1
10341	K:1
10342	K:1
10343	K:1
10344	K:1
10345	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10346	K:1
10347	K:1
10348	F:9 K:4
10349	K:1
10350	K:1
10351	K:1
10352	K:1
10353	K:1
10354	K:1
10355	K:1
10356	K:1
10357	K:1
10358	K:1
10359	K:1
10360	K:1
10361	K:1
10362	K:1
10363	K:2
10364	K:1
10365	K:1
10366	K:1
10367	K:1
10368	K:1
10369	K:1
10370	K:1
10371	K:1
10372	K:1
10373	K:1
10374	K:1
10375	K:1
10376	K:1
10377	A:4
10378	H:2
10379	K:1
10380	K:1
10381	K:1
10382	K:1
10383	K:1
10384	K:1
10385	K:1
10386	K:1
10387	K:1
10388	K:1
10389	K:1
10390	K:1
10391	K:1
10392	F:1
10393	K:1
10394	K:1
10395	K:1
10396	K:1
10397	K:1
10398	K:1
10399	K:1
10400	K:1
10401	A:1
10402	K:1
10403	K:1
10404	K:1
10405	K:1
10406	K:1
10407	K:1
10408	K:3
10409	K:1
10410	K:1
10411	K:1
10412	K:1
10413	A:3
10414	K:1
10415	K:1
10416	K:1
10417	K:1
10418	K:1
10419	K:1
10420	K:1
10421	I:2
10422	K:1
10423	K:1
10424	K:1
10425	K:1
10426	K:1
10427	B:2
10428	K:1
10429	K:1
10430	K:1
10431	K:1
10432	K:1
10433	K:1
10434	K:1
10435	K:1
10436	K:1
10437	K:1
10438	F:4 K:2
10439	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10440	K:1
10441	K:1
10442	K:1
10443	K:1
10444	F:1 K:1
10445	A:5
10446	K:1
10447	K:1
10448	K:1
10449	K:1
10450	K:1
10451	K:1
10452	K:1
10453	A:5
10454	K:1
10455	K:1
10456	K:1
10457	K:1
10458	K:1
10459	K:1
10460	K:1
10461	K:1
10462	K:1
10463	K:1
10464	K:1
10465	K:1
10466	K:1
10467	K:1
10468	K:1
10469	K:1
10470	K:1
10471	K:1
10472	K:1
10473	K:1
10474	K:1
10475	K:1
10476	K:1
10477	K:1
10478	K:1
10479	K:1
10480	K:1
10481	K:1
10482	K:1
10483	K:1
10484	K:1
10485	K:1
10486	K:1
10487	K:1
10488	K:1
10489	K:1
10490	K:1
10491	K:1
10492	K:1
10493	K:1
10494	K:1
10495	K:1
10496	K:1
10497	K:1
10498	K:1
10499	K:1
10500	K:1
10501	K:1
10502	K:1
10503	K:1
10504	A:1
10505	K:1
10506	K:1
10507	K:1
10508	K:1
10509	K:1
10510	K:1
10511	K:1
10512	K:1
10513	K:1
10514	K:1
10515	K:1
10516	K:1
10517	K:1
10518	K:1
10519	K:1
10520	K:1
10521	K:1
10522	K:1
10523	B:1 C:2
10524	K:1
10525	K:1
10526	K:1
10527	K:1
10528	K:1
10529	K:1
10530	K:1
10531	C:1 H:1
10532	K:1
10533	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10534	K:1
10535	K:1
10536	K:1
10537	K:1
10538	A:1 B:2 H:1 K:1
10539	K:1
10540	K:1
10541	K:1
10542	K:1
10543	K:1
10544	K:1
10545	K:1
10546	K:1
10547	K:1
10548	K:1
10549	K:1
10550	K:1
10551	K:1
10552	K:1
10553	K:1
10554	C:1
10555	K:1
10556	K:1
10557	K:1
10558	K:1
10559	K:1
10560	K:1
10561	K:1
10562	K:1
10563	K:1
10564	K:1
10565	K:1
10566	K:1
10567	K:1
10568	K:1
10569	K:1
10570	K:1
10571	K:1
10572	K:1
10573	K:1
10574	K:1
10575	K:1
10576	K:1
10577	K:1
10578	K:1
10579	K:1
10580	K:1

Seq Id No.	Tissue distribution
10581	K:1
10582	K:1
10583	K:1
10584	K:1
10585	K:1
10586	K:1
10587	K:1
10588	K:1
10589	K:1
10590	K:1
10591	D:1
10592	K:1
10593	K:1
10594	K:1
10595	K:1
10596	K:1
10597	K:2
10598	K:1
10599	K:1
10600	K:1
10601	K:1
10602	K:1
10603	K:1
10604	K:1
10605	K:1
10606	K:1
10607	K:1
10608	K:1
10609	K:1
10610	K:1
10611	K:1
10612	K:1
10613	K:1
10614	K:1
10615	K:1
10616	K:1
10617	K:1
10618	K:1
10619	K:1
10620	K:1
10621	K:1
10622	K:1
10623	K:1
10624	K:1
10625	K:1
10626	K:1
10627	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10628	K:1
10629	K:1
10630	K:1
10631	K:1
10632	K:1
10633	K:1
10634	K:1
10635	K:1
10636	K:1
10637	K:1
10638	K:1
10639	K:1
10640	K:1
10641	K:1
10642	K:1
10643	K:1
10644	K:1
10645	K:1
10646	K:1
10647	K:1
10648	K:1
10649	K:1
10650	K:1
10651	K:1
10652	F:1 K:3
10653	K:1
10654	K:1
10655	K:1
10656	K:1
10657	K:1
10658	K:1
10659	K:1
10660	K:1
10661	C:13
10662	K:1
10663	K:1
10664	K:1
10665	K:1
10666	K:1
10667	K:1
10668	K:1
10669	K:1
10670	K:1
10671	K:1
10672	K:1
10673	K:1
10674	K:1
10675	K:1
10676	K:1
10677	K:1
10678	K:1
10679	F:1 K:1
10680	K:1
10681	K:1
10682	K:1
10683	K:1
10684	K:1
10685	K:1
10686	K:1
10687	K:1
10688	K:1
10689	K:1
10690	K:1
10691	K:1
10692	K:1
10693	K:1
10694	K:1
10695	K:1
10696	K:1
10697	K:1
10698	K:1
10699	K:1
10700	F:2 K:1
10701	K:1
10702	K:1
10703	K:1
10704	K:1
10705	K:1
10706	K:1
10707	K:1
10708	K:1
10709	C:3
10710	K:1
10711	K:1
10712	K:1
10713	K:1
10714	K:1
10715	K:1
10716	K:1
10717	K:1
10718	K:1
10719	K:1
10720	K:1
10721	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10722	K:1
10723	K:1
10724	K:1
10725	K:1
10726	K:1
10727	K:1
10728	K:1
10729	K:1
10730	K:1
10731	K:1
10732	K:1
10733	K:1
10734	H:3
10735	K:1
10736	K:1
10737	K:1
10738	K:1
10739	K:1
10740	K:1
10741	K:1
10742	K:1
10743	K:1
10744	K:1
10745	K:1
10746	K:1
10747	K:1
10748	K:1
10749	K:1
10750	K:1
10751	K:1
10752	K:1
10753	K:1
10754	K:1
10755	K:1
10756	K:1
10757	K:1
10758	K:1
10759	K:1
10760	K:1
10761	K:1
10762	K:1
10763	F:1
10764	K:1
10765	K:1
10766	K:1
10767	K:1
10768	K:1

Seq Id No.	Tissue distribution
10769	K:1
10770	K:1
10771	K:1
10772	K:1
10773	K:1
10774	K:1
10775	K:1
10776	K:1
10777	K:1
10778	K:1
10779	K:1
10780	K:1
10781	K:1
10782	K:1
10783	K:1
10784	K:1
10785	K:1
10786	K:1
10787	K:1
10788	K:1
10789	K:1
10790	K:1
10791	K:1
10792	K:1
10793	K:1
10794	K:1
10795	K:1
10796	K:1
10797	K:1
10798	C:15
10799	K:1
10800	K:1
10801	K:1
10802	K:1
10803	K:1
10804	K:1
10805	K:1
10806	K:1
10807	K:1
10808	K:1
10809	K:1
10810	K:1
10811	K:1
10812	K:1
10813	K:1
10814	K:1
10815	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10816	K:1
10817	C:1
10818	K:1
10819	K:1
10820	K:1
10821	K:1
10822	K:1
10823	K:1
10824	K:1
10825	K:1
10826	K:1
10827	K:1
10828	K:1
10829	K:1
10830	K:1
10831	K:1
10832	K:1
10833	K:1
10834	B:1 C:1 H:3
10835	K:2
10836	K:1
10837	K:1
10838	K:1
10839	K:1
10840	K:1
10841	K:1
10842	K:1
10843	K:1
10844	K:1
10845	F:3
10846	K:1
10847	K:1
10848	K:1
10849	K:1
10850	K:1
10851	K:1
10852	F:1
10853	K:1
10854	K:1
10855	K:1
10856	K:1
10857	K:1
10858	K:1
10859	K:1
10860	K:1
10861	K:1
10862	K:1

Seq Id No.	Tissue distribution
10863	K:1
10864	K:1
10865	K:1
10866	K:1
10867	K:1
10868	K:1
10869	K:1
10870	K:1
10871	K:1
10872	K:1
10873	K:1
10874	K:1
10875	K:1
10876	K:1
10877	K:1
10878	K:1
10879	K:1
10880	K:1
10881	K:1
10882	K:1
10883	K:1
10884	K:1
10885	K:1
10886	K:1
10887	K:1
10888	K:1
10889	K:1
10890	K:1
10891	K:1
10892	K:1
10893	K:1
10894	K:1
10895	K:1
10896	K:1
10897	K:1
10898	K:1
10899	K:1
10900	K:1
10901	K:1
10902	K:1
10903	A:3
10904	K:1
10905	K:1
10906	K:1
10907	K:1
10908	K:1
10909	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
10910	K:1
10911	K:1
10912	K:1
10913	K:1
10914	K:1
10915	K:1
10916	K:1
10917	K:1
10918	K:1
10919	K:1
10920	K:1
10921	K:1
10922	K:1
10923	K:1
10924	K:1
10925	K:1
10926	K:1
10927	K:1
10928	K:1
10929	K:1
10930	K:1
10931	K:1
10932	K:1
10933	K:1
10934	K:1
10935	K:1
10936	K:1
10937	K:1
10938	K:1
10939	K:1
10940	K:1
10941	K:1
10942	K:1
10943	K:1
10944	K:1
10945	K:1
10946	K:1
10947	K:1
10948	K:1
10949	K:1
10950	K:1
10951	K:1
10952	K:1
10953	K:1
10954	K:1
10955	K:1
10956	K:1

Seq Id No.	Tissue distribution
10957	K:1
10958	K:1
10959	K:1
10960	K:1
10961	K:1
10962	K:1
10963	H:2
10964	K:1
10965	K:1
10966	K:1
10967	K:1
10968	K:1
10969	K:1
10970	K:1
10971	K:1
10972	K:1
10973	K:1
10974	K:1
10975	K:1
10976	F:4 H:4 K:1
10977	K:1
10978	K:1
10979	K:1
10980	K:1
10981	K:1
10982	K:1
10983	K:1
10984	K:1
10985	K:1
10986	K:1
10987	K:1
10988	K:1
10989	K:1
10990	B:1
10991	K:1
10992	K:1
10993	K:1
10994	K:1
10995	K:1
10996	K:1
10997	K:1
10998	K:1
10999	K:1
11000	K:1
11001	K:1
11002	K:1
11003	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11004	A:13
11005	K:1
11006	K:1
11007	K:1
11008	K:1
11009	K:1
11010	K:1
11011	I:2
11012	K:1
11013	K:1
11014	K:1
11015	K:1
11016	K:1
11017	K:1
11018	K:1
11019	F:6 K:1
11020	K:1
11021	K:1
11022	K:1
11023	K:1
11024	K:1
11025	K:1
11026	K:1
11027	K:1
11028	K:1
11029	K:1
11030	K:1
11031	K:1
11032	K:1
11033	K:1
11034	K:1
11035	K:1
11036	C:4
11037	K:1
11038	K:1
11039	K:1
11040	K:1
11041	K:1
11042	K:1
11043	K:1
11044	K:1
11045	K:1
11046	K:1
11047	K:1
11048	K:1
11049	K:1
11050	K:1
11051	K:1
11052	K:1
11053	K:1
11054	K:1
11055	K:1
11056	A:4
11057	K:1
11058	K:1
11059	K:1
11060	K:1
11061	K:1
11062	K:1
11063	K:1
11064	K:1
11065	K:1
11066	K:1
11067	A:12 B:15 C:58 D:6 F:3 H:57 I:1 K:7
11068	K:1
11069	K:1
11070	K:1
11071	K:1
11072	K:1
11073	K:1
11074	K:1
11075	K:1
11076	B:1 D:1
11077	K:1
11078	K:1
11079	K:1
11080	K:1
11081	K:1
11082	K:1
11083	K:1
11084	K:1
11085	K:1
11086	K:1
11087	K:1
11088	K:1
11089	K:1
11090	A:1 K:1
11091	K:1
11092	K:1
11093	K:1
11094	K:1
11095	K:1
11096	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11097	K:1
11098	K:1
11099	K:1
11100	K:1
11101	K:1
11102	K:1
11103	K:1
11104	K:1
11105	K:1
11106	K:1
11107	K:1
11108	K:1
11109	K:1
11110	K:1
11111	K:1
11112	K:1
11113	K:1
11114	K:1
11115	K:1
11116	K:1
11117	K:1
11118	K:1
11119	K:1
11120	K:1
11121	K:1
11122	K:1
11123	K:1
11124	K:1
11125	K:1
11126	K:1
11127	K:1
11128	K:1
11129	K:1
11130	K:1
11131	K:1
11132	K:1
11133	K:1
11134	K:1
11135	K:2
11136	K:1
11137	K:1
11138	K:1
11139	K:1
11140	K:1
11141	K:1
11142	K:1
11143	K:1
11144	B:2
11145	K:1
11146	K:1
11147	K:1
11148	K:1
11149	K:1
11150	K:1
11151	K:1
11152	K:1
11153	K:1
11154	K:1
11155	K:1
11156	K:1
11157	K:1
11158	H:10
11159	K:1
11160	K:1
11161	K:1
11162	K:1
11163	K:1
11164	K:1
11165	K:1
11166	K:1
11167	K:1
11168	K:1
11169	K:1
11170	K:1
11171	K:1
11172	K:3
11173	K:1
11174	K:1
11175	K:1
11176	K:1
11177	K:1
11178	K:1
11179	F:5
11180	K:1
11181	K:1
11182	K:1
11183	K:1
11184	K:1
11185	K:1
11186	K:1
11187	K:1
11188	K:1
11189	F:1 K:1
11190	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11191	K:1
11192	K:1
11193	K:1
11194	K:1
11195	K:1
11196	K:1
11197	K:1
11198	K:1
11199	K:1
11200	K:1
11201	K:1
11202	K:1
11203	K:1
11204	K:1
11205	K:1
11206	K:1
11207	F:1 K:4
11208	K:1
11209	F:1
11210	F:1
11211	F:1
11212	F:1
11213	F:1
11214	C:2
11215	F:1
11216	F:1
11217	F:1
11218	F:1
11219	F:1
11220	F:1
11221	F:1
11222	F:1
11223	F:1
11224	F:1
11225	F:1
11226	F:1
11227	F:1
11228	F:1
11229	F:1
11230	F:1
11231	F:1
11232	F:1
11233	F:1
11234	F:1
11235	F:1
11236	F:1
11237	F:1

Seq Id No.	Tissue distribution
11238	K:1
11239	K:1
11240	K:1
11241	K:1
11242	K:1
11243	K:1
11244	K:1
11245	K:1
11246	K:1
11247	H:1
11248	K:1
11249	K:1
11250	A:1
11251	A:1
11252	A:1
11253	A:1
11254	A:1
11255	A:1
11256	A:1
11257	A:1
11258	A:1
11259	A:1
11260	A:1
11261	A:1
11262	A:1
11263	A:1
11264	A:1
11265	A:1
11266	A:1
11267	A:1
11268	A:1
11269	A:1
11270	A:1
11271	A:1
11272	A:1
11273	A:1
11274	A:1
11275	A:1
11276	A:1
11277	A:1
11278	A:1
11279	A:1 H:2
11280	A:1
11281	A:1
11282	A:1
11283	A:1
11284	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11285	A:1
11286	A:1
11287	A:1
11288	A:1
11289	A:1
11290	A:1
11291	A:1
11292	A:1
11293	A:1
11294	A:1
11295	A:1
11296	A:1
11297	A:1
11298	A:1
11299	A:1
11300	A:1
11301	A:1
11302	A:1
11303	A:1
11304	A:1
11305	A:1
11306	A:1
11307	A:1
11308	A:1
11309	A:1
11310	A:5
11311	A:1
11312	A:1
11313	A:1
11314	A:1
11315	A:1
11316	A:1
11317	A:1
11318	A:1
11319	A:1
11320	A:1
11321	H:2
11322	A:1
11323	A:1
11324	A:1
11325	A:1
11326	A:1
11327	A:1
11328	A:1
11329	A:1
11330	A:1
11331	A:1
11332	A:1
11333	A:1
11334	A:1
11335	A:1
11336	A:1
11337	A:1
11338	A:1
11339	A:1
11340	B:1
11341	A:8
11342	B:1
11343	B:1
11344	B:1
11345	B:1
11346	B:1
11347	B:1
11348	B:1
11349	B:1
11350	K:2
11351	B:1
11352	B:1
11353	B:1
11354	B:1
11355	B:1
11356	B:1
11357	B:1
11358	B:1
11359	B:1
11360	C:2
11361	B:1
11362	B:1
11363	B:1
11364	B:1
11365	B:1
11366	K:2
11367	B:1
11368	B:1
11369	B:1
11370	B:1
11371	B:1
11372	B:1
11373	B:1
11374	B:1
11375	B:1
11376	B:1
11377	B:1
11378	B:3 F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11379	B:1
11380	B:1
11381	B:1
11382	B:1
11383	B:1
11384	B:1
11385	B:1
11386	B:1
11387	B:3 F:11 H:2
11388	B:1
11389	B:1
11390	B:1
11391	B:1
11392	B:1
11393	B:1
11394	B:1
11395	B:1
11396	B:1
11397	B:1
11398	B:1
11399	B:1
11400	B:1
11401	B:1
11402	B:1
11403	B:1
11404	B:1
11405	B:1
11406	B:1
11407	B:1
11408	B:1
11409	B:1
11410	B:1
11411	B:1
11412	B:1
11413	B:1
11414	B:1
11415	B:1
11416	B:1
11417	B:1
11418	B:1
11419	B:1
11420	B:1
11421	B:1
11422	B:1
11423	B:1
11424	B:1
11425	B:1
11426	B:1
11427	B:1
11428	B:1
11429	B:1
11430	B:1
11431	B:1
11432	B:1
11433	B:1
11434	B:1
11435	B:1
11436	B:1
11437	B:1
11438	B:1
11439	C:1
11440	C:1
11441	C:1
11442	C:1
11443	C:1
11444	C:1
11445	C:1
11446	C:1
11447	C:1
11448	C:1
11449	K:2
11450	C:1
11451	C:1
11452	C:1
11453	C:1
11454	C:1
11455	C:1
11456	C:1
11457	F:1 K:2
11458	C:1
11459	C:1
11460	C:1
11461	C:1
11462	C:1
11463	C:1
11464	C:1
11465	F:1 K:2
11466	C:1
11467	C:1
11468	C:1
11469	C:1
11470	C:1
11471	C:1
11472	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11473	H:2
11474	C:1
11475	C:1
11476	C:1
11477	C:1
11478	C:1
11479	C:1
11480	C:1
11481	C:1
11482	C:1
11483	C:1
11484	F:2 K:2
11485	C:1
11486	C:1
11487	C:1
11488	C:1
11489	C:1
11490	C:1
11491	C:1
11492	C:1
11493	C:1
11494	C:1
11495	C:1
11496	C:1
11497	C:1
11498	C:1
11499	F:2 K:2
11500	C:1
11501	C:1
11502	C:1
11503	C:1
11504	C:1
11505	C:1
11506	C:1
11507	C:1
11508	C:1
11509	A:3
11510	C:1
11511	C:1
11512	C:1
11513	C:1
11514	C:1
11515	C:1
11516	C:1
11517	C:1
11518	C:1
11519	C:1
11520	C:1
11521	C:1
11522	C:1
11523	C:1
11524	C:1
11525	C:1
11526	C:1
11527	A:2 D:1 K:1
11528	C:1
11529	C:1
11530	C:1
11531	C:1
11532	C:1
11533	C:1
11534	C:1
11535	C:1
11536	C:1
11537	H:2
11538	C:1
11539	J:1
11540	J:1
11541	J:1
11542	J:1
11543	J:1
11544	J:1
11545	J:1
11546	J:1
11547	J:1
11548	J:1
11549	J:1
11550	J:1
11551	J:1
11552	J:1
11553	E:1
11554	E:1
11555	E:1
11556	E:1
11557	C:1
11558	E:1
11559	E:1
11560	E:1
11561	E:1
11562	C:1
11563	C:1
11564	C:1
11565	K:3
11566	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11567	C:1
11568	C:1
11569	C:1
11570	C:1
11571	C:1
11572	C:1
11573	C:1
11574	C:1
11575	C:1
11576	C:1
11577	C:1
11578	C:1
11579	C:1
11580	C:1
11581	C:1
11582	C:1
11583	C:1
11584	B:1 C:2
11585	C:1
11586	C:1
11587	C:1
11588	C:1
11589	C:1
11590	C:1
11591	C:1
11592	C:1
11593	C:1
11594	C:1
11595	B:3
11596	C:1
11597	C:1
11598	C:1
11599	C:1
11600	C:1
11601	C:1
11602	C:1
11603	C:1
11604	C:1
11605	C:1
11606	K:2
11607	C:1
11608	C:1
11609	C:1
11610	C:1
11611	C:1
11612	C:1
11613	C:1
11614	C:1
11615	C:1
11616	C:1
11617	C:1
11618	C:1
11619	C:1
11620	C:1
11621	C:1
11622	C:1
11623	C:1
11624	C:1
11625	C:1
11626	C:1
11627	C:1
11628	C:1
11629	C:1
11630	C:1
11631	C:1
11632	C:1
11633	C:1
11634	C:1
11635	C:1
11636	C:1
11637	C:1
11638	C:1
11639	C:1
11640	C:1
11641	C:1
11642	C:1
11643	C:1
11644	C:1
11645	C:1
11646	C:1
11647	C:1
11648	C:1
11649	C:1
11650	C:1
11651	C:1
11652	C:1
11653	C:1
11654	C:1
11655	C:1
11656	C:1
11657	C:1
11658	C:1
11659	C:1
11660	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11661	C:1
11662	C:1
11663	C:1
11664	C:1
11665	C:1
11666	C:1
11667	C:1
11668	C:1
11669	C:1
11670	C:1
11671	C:1
11672	C:1
11673	C:1
11674	F:1
11675	C:1
11676	C:1
11677	C:1
11678	C:1
11679	C:1
11680	C:1
11681	C:1
11682	C:1
11683	C:1
11684	C:1
11685	F:1
11686	C:1
11687	C:1
11688	C:1
11689	C:1
11690	C:1
11691	C:1
11692	C:1
11693	C:1
11694	C:1
11695	C:1
11696	C:6
11697	C:1
11698	C:1
11699	C:1
11700	C:1
11701	C:1
11702	C:1
11703	C:1
11704	C:1
11705	C:1
11706	C:1
11707	H:3
11708	C:1
11709	C:1
11710	C:1
11711	C:1
11712	C:1
11713	C:1
11714	C:1
11715	C:1
11716	C:1
11717	F:2
11718	C:1
11719	C:1
11720	C:1
11721	C:1
11722	C:1
11723	C:1
11724	C:1
11725	C:1
11726	C:1
11727	C:1
11728	C:1
11729	C:1
11730	C:1
11731	C:1
11732	C:1
11733	C:1
11734	C:1
11735	C:1
11736	C:1
11737	K:5
11738	C:1
11739	C:1
11740	C:1
11741	C:1
11742	C:1
11743	C:1
11744	C:1
11745	C:1
11746	C:1
11747	F:2 K:22
11748	C:1
11749	C:1
11750	C:1
11751	C:1
11752	C:1
11753	C:1
11754	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11755	C:1
11756	C:1
11757	K:2
11758	C:1
11759	C:1
11760	C:1
11761	C:1
11762	C:1
11763	C:1
11764	C:1
11765	C:1
11766	C:1
11767	C:1
11768	B:3
11769	C:1
11770	C:1
11771	C:1
11772	C:1
11773	C:1
11774	C:1
11775	C:1
11776	C:1
11777	C:1
11778	C:1
11779	F:1 K:4
11780	C:1
11781	C:1
11782	C:1
11783	C:1
11784	C:1
11785	C:1
11786	C:1
11787	C:1
11788	C:1
11789	C:1
11790	H:5
11791	C:1
11792	C:1
11793	C:1
11794	C:1
11795	C:1
11796	C:1
11797	C:1
11798	C:1
11799	C:1
11800	C:1
11801	C:4
11802	C:1
11803	C:1
11804	C:1
11805	C:1
11806	C:1
11807	C:1
11808	C:1
11809	C:1
11810	C:1
11811	B:2
11812	C:1
11813	C:1
11814	C:1
11815	C:1
11816	C:1
11817	C:1
11818	C:1
11819	C:1
11820	C:1
11821	C:1
11822	F:13 K:2
11823	C:1
11824	C:1
11825	C:1
11826	C:1
11827	C:1
11828	C:1
11829	C:1
11830	C:1
11831	C:1
11832	C:1
11833	F:5
11834	C:1
11835	C:1
11836	C:1
11837	C:1
11838	C:1
11839	C:1
11840	C:1
11841	C:1
11842	C:1
11843	F:1
11844	C:1
11845	C:1
11846	C:1
11847	C:1
11848	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11849	C:1
11850	C:1
11851	C:1
11852	C:1
11853	C:1
11854	K:3
11855	C:1
11856	C:1
11857	C:1
11858	C:1
11859	C:1
11860	C:1
11861	C:1
11862	C:1
11863	C:1
11864	C:1
11865	C:1
11866	C:1
11867	C:1
11868	C:1
11869	C:1
11870	C:1
11871	C:1
11872	C:1
11873	C:1
11874	C:1
11875	C:1
11876	C:1
11877	C:1
11878	C:1
11879	C:1
11880	C:1
11881	C:1
11882	C:1
11883	C:1
11884	H:2
11885	C:1
11886	C:1
11887	C:1
11888	C:1
11889	C:1
11890	C:1
11891	C:1
11892	C:1
11893	C:1
11894	C:1
11895	F:13
11896	C:1
11897	C:1
11898	C:1
11899	C:1
11900	C:1
11901	C:1
11902	C:1
11903	C:1
11904	C:1
11905	C:1
11906	A:1
11907	C:1
11908	C:1
11909	C:1
11910	C:1
11911	C:1
11912	C:1
11913	C:1
11914	C:1
11915	C:1
11916	K:1
11917	C:1
11918	C:1
11919	C:1
11920	C:1
11921	C:1
11922	C:1
11923	C:1
11924	C:1
11925	C:1
11926	C:1
11927	B:2
11928	C:1
11929	C:1
11930	C:1
11931	C:1
11932	C:1
11933	C:1
11934	C:1
11935	C:1
11936	C:1
11937	C:1
11938	C:1
11939	C:1
11940	C:1
11941	C:1
11942	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
11943	C:1
11944	C:1
11945	C:1
11946	C:1
11947	C:1
11948	C:1
11949	C:1
11950	C:1
11951	C:1
11952	C:1
11953	C:1
11954	C:1
11955	C:1
11956	C:1
11957	C:1
11958	C:1
11959	C:1
11960	C:1
11961	C:1
11962	C:1
11963	C:1
11964	C:1
11965	C:1
11966	C:1
11967	C:1
11968	C:1
11969	C:1
11970	C:1
11971	C:1
11972	C:1
11973	C:1
11974	C:1
11975	C:1
11976	C:1
11977	H:2
11978	C:1
11979	C:1
11980	C:1
11981	C:1
11982	C:1
11983	C:1
11984	C:1
11985	C:1
11986	C:1
11987	C:1
11988	C:1
11989	C:1

Seq Id No.	Tissue distribution
11990	C:1
11991	C:1
11992	C:1
11993	C:1
11994	C:1
11995	C:1
11996	C:1
11997	C:1
11998	K:1
11999	C:1
12000	C:1
12001	C:1
12002	C:1
12003	C:1
12004	C:1
12005	C:1
12006	C:1
12007	C:1
12008	F:1
12009	C:1
12010	C:1
12011	C:1
12012	C:1
12013	C:1
12014	C:1
12015	C:1
12016	C:1
12017	C:1
12018	C:1
12019	C:1
12020	C:1
12021	C:1
12022	C:1
12023	C:1
12024	C:1
12025	C:1
12026	C:1
12027	C:1
12028	C:1
12029	C:1
12030	C:1
12031	C:1
12032	C:1
12033	C:1
12034	C:1
12035	C:1
12036	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12037	C:1
12038	C:1
12039	B:1
12040	C:1
12041	C:1
12042	C:1
12043	C:1
12044	C:1
12045	C:1
12046	C:1
12047	C:1
12048	C:1
12049	C:1
12050	B:1
12051	C:1
12052	C:1
12053	C:1
12054	C:1
12055	C:1
12056	C:1
12057	C:1
12058	C:1
12059	C:1
12060	C:1
12061	B:1
12062	C:1
12063	C:1
12064	C:1
12065	C:1
12066	C:1
12067	C:1
12068	C:1
12069	C:1
12070	C:1
12071	H:2
12072	H:2
12073	C:1
12074	C:1
12075	C:1
12076	C:1
12077	C:1
12078	C:1
12079	C:1
12080	C:1
12081	C:1
12082	K:2
12083	C:1
12084	C:1
12085	C:1
12086	C:1
12087	C:1
12088	C:1
12089	C:1
12090	C:1
12091	B:2
12092	C:1
12093	C:1
12094	C:1
12095	C:1
12096	C:1
12097	C:1
12098	C:1
12099	C:1
12100	C:1
12101	C:1
12102	C:1
12103	C:1
12104	C:1
12105	C:1
12106	C:1
12107	C:1
12108	C:1
12109	C:1
12110	C:1
12111	C:1
12112	F:2
12113	C:1
12114	C:1
12115	C:1
12116	C:1
12117	C:1
12118	C:1
12119	C:1
12120	C:1
12121	C:1
12122	C:1
12123	B:2
12124	C:1
12125	C:1
12126	C:1
12127	C:1
12128	C:1
12129	C:1
12130	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12131	C:1
12132	C:1
12133	C:1
12134	H:2
12135	C:1
12136	C:1
12137	C:1
12138	C:1
12139	C:1
12140	C:1
12141	C:1
12142	C:1
12143	C:1
12144	C:1
12145	F:2
12146	C:1
12147	C:1
12148	C:1
12149	C:1
12150	C:1
12151	C:1
12152	C:1
12153	C:1
12154	C:1
12155	C:1
12156	C:1
12157	C:1
12158	C:1
12159	C:1
12160	C:1
12161	C:1
12162	C:1
12163	C:1
12164	C:1
12165	C:1
12166	K:1
12167	C:1
12168	C:1
12169	C:1
12170	C:1
12171	C:1
12172	C:1
12173	C:1
12174	C:1
12175	C:1
12176	C:1
12177	A:5
12178	C:1
12179	C:1
12180	C:1
12181	C:1
12182	C:1
12183	C:1
12184	C:1
12185	C:1
12186	C:1
12187	C:1
12188	C:1
12189	C:1
12190	C:1
12191	C:1
12192	C:1
12193	C:1
12194	C:1
12195	C:1
12196	C:1
12197	C:4
12198	C:1
12199	C:1
12200	C:1
12201	C:1
12202	C:1
12203	C:1
12204	C:1
12205	C:1
12206	C:1
12207	C:1
12208	B:4 C:1
12209	C:1
12210	C:1
12211	C:1
12212	C:1
12213	C:1
12214	C:1
12215	C:1
12216	C:1
12217	C:1
12218	B:2
12219	C:1
12220	C:1
12221	C:1
12222	C:1
12223	C:1
12224	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12225	C:1
12226	C:1
12227	C:1
12228	C:1
12229	C:1
12230	C:1
12231	C:1
12232	C:1
12233	C:1
12234	C:1
12235	C:1
12236	C:1
12237	C:1
12238	C:1
12239	A:4
12240	C:1
12241	C:1
12242	C:1
12243	C:1
12244	C:1
12245	C:1
12246	C:1
12247	C:1
12248	C:1
12249	C:1
12250	C:1
12251	C:1
12252	C:1
12253	C:1
12254	C:1
12255	C:1
12256	C:1
12257	C:1
12258	C:1
12259	C:1
12260	C:1
12261	C:1
12262	C:1
12263	C:1
12264	C:1
12265	C:1
12266	C:1
12267	C:1
12268	C:1
12269	C:1
12270	C:1
12271	C:1
12272	C:1
12273	C:1
12274	C:1
12275	C:1
12276	C:1
12277	C:1
12278	A:1 B:1
12279	H:1
12280	C:1
12281	C:1
12282	C:1
12283	C:1
12284	C:1
12285	C:1
12286	C:1
12287	C:1
12288	C:1
12289	C:1
12290	C:1
12291	C:1
12292	C:1
12293	C:1
12294	C:1
12295	C:1
12296	C:1
12297	C:1
12298	C:1
12299	C:1
12300	C:1
12301	C:1
12302	C:1
12303	C:1
12304	C:1
12305	C:1
12306	D:1
12307	C:1
12308	C:1
12309	C:1
12310	C:1
12311	C:1
12312	C:1
12313	C:1
12314	C:1
12315	C:1
12316	C:1
12317	I:2
12318	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12319	C:1
12320	C:1
12321	C:1
12322	C:1
12323	C:1
12324	C:1
12325	C:1
12326	C:1
12327	C:98
12328	C:1
12329	C:1
12330	C:1
12331	C:1
12332	C:1
12333	C:1
12334	C:1
12335	C:1
12336	C:1
12337	C:1
12338	C:1
12339	C:1
12340	C:1
12341	C:1
12342	C:1
12343	C:1
12344	C:1
12345	C:1
12346	C:1
12347	C:1
12348	C:1
12349	C:1
12350	C:1
12351	C:1
12352	C:1
12353	C:1
12354	C:1
12355	C:1
12356	K:1
12357	C:1
12358	C:1
12359	C:1
12360	C:1
12361	C:1
12362	C:1
12363	C:1
12364	C:1
12365	C:1

Seq Id No.	Tissue distribution
12366	C:1
12367	C:1
12368	C:1
12369	C:1
12370	C:1
12371	C:1
12372	C:1
12373	C:1
12374	C:1
12375	C:1
12376	C:1
12377	C:1
12378	C:1
12379	C:1
12380	C:1
12381	C:1
12382	C:1
12383	C:1
12384	C:1
12385	C:1
12386	C:1
12387	C:1
12388	C:1
12389	C:1
12390	C:1
12391	C:1
12392	C:1
12393	C:1
12394	C:1
12395	C:1
12396	C:1
12397	C:1
12398	C:1
12399	C:1
12400	C:1
12401	C:1
12402	C:1
12403	C:1
12404	C:1
12405	C:1
12406	C:1
12407	C:1
12408	C:1
12409	C:1
12410	C:1
12411	C:1
12412	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12413	C:1
12414	C:1
12415	C:1
12416	C:1
12417	C:1
12418	C:1
12419	C:1
12420	C:1
12421	C:1
12422	C:1
12423	C:1
12424	C:1
12425	C:1
12426	C:1
12427	C:1
12428	C:1
12429	C:1
12430	C:1
12431	C:1
12432	C:1
12433	C:1
12434	C:1
12435	C:1
12436	C:1
12437	A:8
12438	C:1
12439	C:1
12440	C:1
12441	C:1
12442	C:1
12443	C:1
12444	C:1
12445	C:1
12446	C:1
12447	C:1
12448	C:1
12449	C:1
12450	C:1
12451	C:1
12452	C:1
12453	C:1
12454	C:1
12455	C:1
12456	K:1
12457	K:1
12458	K:1
12459	K:1
12460	K:1
12461	K:1
12462	K:1
12463	K:1
12464	K:1
12465	H:1
12466	K:1
12467	K:1
12468	K:1
12469	K:1
12470	K:1
12471	K:1
12472	K:1
12473	K:1
12474	K:1
12475	K:1
12476	K:4
12477	K:1
12478	K:1
12479	K:1
12480	K:1
12481	K:1
12482	K:1
12483	K:1
12484	K:1
12485	B:7 C:1
12486	K:1
12487	K:1
12488	K:1
12489	K:1
12490	K:1
12491	K:1
12492	K:1
12493	K:1
12494	K:1
12495	K:1
12496	K:1
12497	K:1
12498	K:1
12499	K:1
12500	K:1
12501	K:1
12502	K:1
12503	K:1
12504	K:1
12505	K:1
12506	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12507	K:1
12508	K:1
12509	F:1 K:4
12510	K:1
12511	K:1
12512	K:1
12513	K:1
12514	K:1
12515	K:1
12516	K:1
12517	K:1
12518	K:1
12519	K:1
12520	K:1
12521	K:1
12522	K:1
12523	K:1
12524	K:1
12525	K:1
12526	K:1
12527	K:1
12528	K:1
12529	K:1
12530	K:1
12531	K:1
12532	F:1
12533	K:1
12534	K:1
12535	K:1
12536	K:1
12537	K:1
12538	K:1
12539	K:1
12540	K:1
12541	K:1
12542	K:1
12543	K:1
12544	K:1
12545	K:1
12546	K:1
12547	K:1
12548	K:1
12549	K:1
12550	K:1
12551	K:1
12552	K:1
12553	K:1
12554	K:1
12555	K:1
12556	K:1
12557	K:1
12558	K:1
12559	K:1
12560	K:1
12561	K:1
12562	K:1
12563	K:1
12564	K:1
12565	K:1
12566	K:1
12567	K:1
12568	K:1
12569	K:1
12570	K:1
12571	H:1
12572	K:1
12573	K:1
12574	K:1
12575	K:1
12576	K:1
12577	K:1
12578	K:1
12579	B:1
12580	H:2
12581	B:1
12582	B:1
12583	B:1
12584	B:1
12585	B:1
12586	B:1
12587	B:1
12588	B:1
12589	B:1
12590	B:2
12591	B:1
12592	B:1
12593	B:1
12594	B:1
12595	B:1
12596	B:1
12597	B:1
12598	B:1
12599	B:1
12600	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12601	B:1
12602	B:1
12603	B:1
12604	B:1
12605	H:2
12606	B:1
12607	B:1
12608	B:1
12609	B:1
12610	B:1
12611	B:1
12612	B:1
12613	B:1
12614	B:1
12615	B:1
12616	B:1
12617	B:1
12618	F:2 K:5
12619	B:1
12620	B:1
12621	B:1
12622	B:1
12623	B:1
12624	B:1
12625	D:1 I:1
12626	B:1
12627	B:1
12628	B:1
12629	B:1
12630	B:1
12631	B:1
12632	B:1
12633	B:1
12634	B:1
12635	K:2
12636	K:2
12637	B:1
12638	B:1
12639	B:1
12640	B:1
12641	B:1
12642	B:1
12643	B:1
12644	B:1
12645	B:1
12646	B:1
12647	B:1
12648	B:1
12649	B:1
12650	B:1
12651	B:1
12652	B:1
12653	B:1
12654	B:1
12655	B:1
12656	B:1
12657	B:1
12658	B:1
12659	B:1
12660	B:1
12661	B:1
12662	B:1
12663	B:1
12664	B:1
12665	B:1
12666	B:1
12667	B:1
12668	B:1
12669	B:1
12670	B:1 H:2
12671	B:1
12672	B:1
12673	B:1
12674	B:1
12675	B:1
12676	B:1
12677	B:1
12678	I:2
12679	B:1
12680	B:1
12681	B:1
12682	B:1
12683	B:1
12684	B:1
12685	B:1
12686	B:1
12687	A:1 B:5 F:1 H:1
12688	B:1
12689	B:1
12690	B:1
12691	B:1
12692	B:1
12693	B:1
12694	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12695	B:1
12696	B:1
12697	B:1
12698	B:1
12699	B:1
12700	B:1
12701	B:1
12702	B:1
12703	B:1
12704	B:1
12705	B:1
12706	B:1
12707	B:1
12708	B:1
12709	B:1
12710	B:1
12711	B:1
12712	B:1
12713	B:1
12714	B:1
12715	B:1
12716	B:1
12717	B:1
12718	B:1
12719	C:2
12720	B:1
12721	B:1
12722	B:1
12723	B:1
12724	B:1
12725	B:1
12726	B:1
12727	B:1
12728	B:1
12729	B:1
12730	B:1
12731	B:1
12732	B:1
12733	B:1
12734	B:1
12735	B:1
12736	B:1
12737	B:1
12738	B:1
12739	B:1
12740	B:1
12741	B:1
12742	B:1
12743	B:1
12744	B:1
12745	B:1
12746	B:1
12747	B:1
12748	B:1
12749	B:1
12750	B:1
12751	B:1
12752	B:1
12753	B:1
12754	B:1
12755	B:1
12756	B:1
12757	B:1
12758	B:1
12759	D:1
12760	B:1
12761	B:1
12762	B:1
12763	B:1
12764	B:1
12765	B:1
12766	B:1
12767	B:1
12768	B:1
12769	B:1
12770	B:1
12771	B:1
12772	B:1
12773	B:1
12774	B:1
12775	B:1
12776	B:1
12777	B:1
12778	B:1
12779	B:1
12780	B:1
12781	B:1
12782	B:1
12783	B:1
12784	B:1
12785	B:1
12786	B:1
12787	B:1
12788	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12789	B:1
12790	B:1
12791	B:1
12792	B:1
12793	B:1
12794	B:1
12795	H:1
12796	B:1
12797	B:1
12798	B:1
12799	B:1
12800	B:1
12801	B:1
12802	B:1
12803	B:1
12804	B:1
12805	B:1
12806	B:1
12807	B:1
12808	B:1
12809	H:1
12810	B:1
12811	B:1
12812	B:1
12813	B:1
12814	B:1
12815	B:1
12816	B:1
12817	B:1
12818	B:1
12819	B:1
12820	B:1
12821	B:1
12822	B:1
12823	B:1
12824	B:1
12825	B:1
12826	B:1
12827	B:1
12828	B:1
12829	B:1
12830	B:1
12831	B:1
12832	B:1
12833	B:1
12834	B:1
12835	K:2
12836	B:1
12837	B:1
12838	B:1
12839	B:1
12840	B:1
12841	B:1
12842	B:1
12843	B:1
12844	A:3
12845	B:1
12846	B:1
12847	B:1
12848	B:1
12849	B:1
12850	B:1
12851	B:1
12852	B:1
12853	B:1
12854	F:1 K:3
12855	B:1
12856	B:1
12857	B:1
12858	B:1
12859	B:1
12860	B:1
12861	B:1
12862	K:1
12863	B:1
12864	B:1
12865	B:1
12866	B:1
12867	B:1
12868	B:1
12869	B:1
12870	B:1
12871	B:1
12872	B:1
12873	B:1
12874	B:1
12875	B:1
12876	B:1
12877	B:1
12878	B:1
12879	A:8 B:3 C:2
12880	B:1
12881	B:1
12882	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12883	B:1
12884	B:1
12885	B:1
12886	B:1
12887	B:1
12888	B:1
12889	B:1
12890	B:1
12891	B:1
12892	B:1
12893	B:1
12894	B:1
12895	B:1
12896	B:1
12897	B:1
12898	B:1
12899	B:1
12900	H:3
12901	B:1
12902	B:1
12903	B:1
12904	B:1
12905	B:1
12906	B:1
12907	B:1
12908	B:1
12909	B:1
12910	B:1
12911	B:1
12912	B:1
12913	B:1
12914	B:1
12915	B:1
12916	B:1
12917	B:1
12918	B:1
12919	B:1
12920	B:1
12921	B:1
12922	B:1
12923	B:1
12924	B:1
12925	B:1
12926	B:1
12927	B:1
12928	B:1
12929	B:1

Seq Id No.	Tissue distribution
12930	B:1
12931	B:1
12932	B:1
12933	B:1
12934	B:1
12935	B:1
12936	B:1
12937	B:1
12938	B:1
12939	B:1
12940	B:1
12941	B:1
12942	B:1
12943	B:1
12944	B:1
12945	A:1 B:3 I:1 K:1
12946	B:1
12947	B:1
12948	B:1
12949	B:1
12950	B:1
12951	B:1
12952	B:1
12953	B:1
12954	B:1
12955	B:1
12956	B:1
12957	B:1
12958	B:1
12959	B:1
12960	B:1
12961	B:1
12962	B:1
12963	B:1
12964	B:1
12965	B:1
12966	B:1
12967	B:1
12968	B:1
12969	B:1
12970	B:1
12971	B:1
12972	B:1
12973	B:1
12974	B:1
12975	B:1
12976	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
12977	F:1
12978	B:1
12979	B:1
12980	B:1
12981	B:1
12982	B:1
12983	B:1
12984	B:1
12985	B:1
12986	B:1
12987	B:1
12988	B:1
12989	B:1
12990	B:1
12991	B:1
12992	B:1
12993	B:1
12994	B:1
12995	K:1
12996	B:1
12997	B:1
12998	B:1
12999	B:1
13000	B:1
13001	B:1
13002	B:1
13003	B:1
13004	B:1
13005	B:1
13006	B:1
13007	B:1
13008	K:2
13009	B:1
13010	B:1
13011	B:1
13012	B:1
13013	B:1
13014	B:1
13015	B:1
13016	B:1
13017	B:1
13018	B:1
13019	B:1
13020	B:1
13021	B:1
13022	B:1
13023	B:1

Seq Id No.	Tissue distribution
13024	B:1
13025	B:1
13026	B:1
13027	B:1
13028	B:1
13029	B:1
13030	B:1
13031	B:1
13032	B:1
13033	B:1
13034	B:1
13035	B:1
13036	B:1
13037	B:1
13038	B:1
13039	B:1
13040	B:1
13041	B:1
13042	B:1
13043	B:1
13044	B:1
13045	B:1
13046	B:1
13047	B:1
13048	B:1
13049	B:1
13050	B:1
13051	B:1
13052	B:1
13053	B:1
13054	B:1
13055	B:1
13056	F:1 K:1
13057	B:1
13058	B:1
13059	B:1
13060	B:1
13061	B:1
13062	B:1
13063	B:1
13064	B:1
13065	B:1
13066	B:1
13067	B:1
13068	B:1
13069	B:1
13070	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13071	B:1
13072	B:1
13073	B:1
13074	B:1
13075	B:1
13076	B:1
13077	B:1
13078	K:1
13079	B:1
13080	B:1
13081	B:1
13082	B:1
13083	B:1
13084	B:1
13085	B:2
13086	B:1
13087	B:1
13088	B:1
13089	B:1
13090	B:2
13091	B:1
13092	B:1
13093	B:1
13094	B:1
13095	B:1
13096	B:1
13097	B:1
13098	B:1
13099	B:1
13100	B:1
13101	B:1
13102	B:1
13103	B:1
13104	B:1
13105	B:1
13106	B:1
13107	B:1
13108	B:1
13109	B:1
13110	K:2
13111	B:1
13112	B:1
13113	B:1
13114	B:1
13115	B:1
13116	B:1
13117	A:2

Seq Id No.	Tissue distribution
13118	B:1
13119	B:1
13120	B:1
13121	B:1
13122	B:1
13123	B:1
13124	B:1
13125	B:1
13126	B:1
13127	B:1
13128	B:1
13129	B:1
13130	B:1
13131	B:1
13132	B:1
13133	A:6
13134	B:1
13135	B:1
13136	B:1
13137	B:1
13138	B:1
13139	B:1
13140	B:1
13141	B:1
13142	H:2
13143	B:1
13144	B:1
13145	B:1
13146	B:1
13147	B:1
13148	B:1
13149	B:1
13150	K:3
13151	B:1
13152	B:1
13153	B:1
13154	B:1
13155	B:1
13156	B:1
13157	B:1
13158	B:1
13159	B:1
13160	B:1
13161	B:1
13162	B:1
13163	B:1
13164	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13165	B:1
13166	B:1
13167	B:1
13168	C:1
13169	C:1
13170	C:1
13171	C:1
13172	K:2
13173	C:1
13174	C:1
13175	C:1
13176	C:1
13177	C:1
13178	C:1
13179	C:1
13180	A:1 F:1
13181	C:1
13182	C:1
13183	C:1
13184	C:1
13185	C:1
13186	C:1
13187	C:1
13188	H:2
13189	C:1
13190	C:1
13191	C:1
13192	C:1
13193	H:2
13194	C:1
13195	C:1
13196	C:1
13197	C:1
13198	B:3
13199	C:1
13200	C:1
13201	C:1
13202	C:1
13203	C:1
13204	C:1
13205	C:1
13206	C:1
13207	F:1 K:1
13208	C:1
13209	C:1
13210	C:1
13211	C:1
13212	C:1
13213	C:1
13214	C:1
13215	C:1
13216	C:1
13217	C:1
13218	C:1
13219	C:1
13220	C:1
13221	C:1
13222	C:1
13223	K:1
13224	C:1
13225	C:1
13226	C:1
13227	C:1
13228	C:1
13229	C:1
13230	C:1
13231	C:1
13232	C:1
13233	A:2
13234	C:1
13235	C:1
13236	C:1
13237	C:1
13238	C:1
13239	C:1
13240	C:2
13241	C:1
13242	C:1
13243	C:1
13244	C:1
13245	C:1
13246	C:1
13247	C:1
13248	C:1
13249	C:1
13250	C:1
13251	C:1
13252	C:1
13253	C:1
13254	C:1
13255	C:1
13256	C:1
13257	C:1
13258	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13259	C:1
13260	C:1
13261	C:1
13262	C:1
13263	C:1
13264	C:1
13265	C:1
13266	C:1
13267	A:9 H:1
13268	C:1
13269	C:1
13270	C:1
13271	C:1
13272	C:1
13273	C:1
13274	C:1
13275	C:1
13276	C:1
13277	K:2
13278	C:1
13279	C:1
13280	C:1
13281	C:1
13282	C:1
13283	C:1
13284	C:1
13285	C:1
13286	B:2
13287	C:1
13288	C:1
13289	C:1
13290	C:1
13291	C:1
13292	C:1
13293	C:1
13294	K:2
13295	C:1
13296	C:1
13297	C:1
13298	C:1
13299	C:1
13300	C:1
13301	C:1
13302	C:1
13303	C:1
13304	C:1
13305	C:1

Seq Id No.	Tissue distribution
13306	C:1
13307	C:1
13308	C:1
13309	C:1
13310	C:1
13311	C:1
13312	C:1
13313	C:1
13314	C:1
13315	C:1
13316	C:1
13317	C:1
13318	C:1
13319	C:1
13320	C:1
13321	C:1
13322	C:1
13323	C:1
13324	C:1
13325	C:1
13326	C:1
13327	C:1
13328	C:1
13329	C:1
13330	K:2
13331	C:1
13332	C:1
13333	C:1
13334	C:1
13335	C:1
13336	K:2
13337	C:1
13338	C:1
13339	C:1
13340	C:1
13341	C:1
13342	C:1
13343	C:1
13344	C:1
13345	C:1
13346	B:1
13347	C:1
13348	C:1
13349	C:1
13350	C:1
13351	C:1
13352	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13353	C:1
13354	I:1
13355	I:1
13356	I:1
13357	I:1
13358	I:1
13359	C:1
13360	I:1
13361	I:1
13362	I:1
13363	I:1
13364	I:1
13365	I:1
13366	B:8
13367	C:1
13368	I:1
13369	I:1
13370	I:1
13371	I:1
13372	I:1
13373	I:1
13374	I:1
13375	C:1
13376	·I:1
13377	I:1
13378	I:1
13379	I:1
13380	I:1
13381	I:1
13382	I:1
13383	I:1
13384	C:1
13385	I:1
13386	I:1
13387	I:1
13388	I:1
13389	I:1
13390	I:1
13391	I:1
13392	C:1
13393	I:1
13394	I:1
13395	I:1
13396	I:1
13397	I:1
13398	C:1
13399	I:1

Seq Id No.	Tissue distribution
13400	I:1
13401	I:1
13402	I:1
13403	I:1
13404	I:1
13405	I:1
13406	I:1
13407	C:1
13408	I:1
13409	I:1
13410	I:1
13411	I:1
13412	C:1
13413	I:1
13414	I:1
13415	I:1
13416	I:1
13417	I:1
13418	I:1
13419	I:1
13420	C:1
13421	I:1
13422	I:1
13423	I:1
13424	I:1
13425	I:1
13426	I:1
13427	I:1
13428	C:1
13429	I:1
13430	I:1
13431	I:1
13432	I:1
13433	I:1
13434	I:1
13435	C:1
13436	I:1
13437	I:1
13438	I:1
13439	I:1
13440	I:1
13441	I:1
13442	I:1
13443	C:1
13444	I:1
13445	I:1
13446	I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13447	I:1
13448	I:1
13449	C:122
13450	I:1
13451	I:1
13452	I:1
13453	I:1
13454	.I:1
13455	I:1
13456	I:1
13457	C:1
13458	I:1
13459	I:1
13460	I:1
13461	I:1
13462	I:1
13463	I:1
13464	C:1
13465	I:1
13466	I:1
13467	I:1
13468	I:1
13469	I:1
13470	I:1
13471	I:1
13472	I:1
13473	I:1
13474	I:1
13475	I:1
13476	I:1
13477	I:1
13478	I:1
13479	I:1
13480	I:1
13481	I:1
13482	I:1
13483	I:1
13484	I:1
13485	I:1
13486	C:1
13487	C:1
13488	C:1
13489	C:1
13490	C:1
13491	F:4
13492	C:1
13493	C:1
13494	C:1
13495	C:1
13496	C:1
13497	C:1
13498	C:1
13499	C:1
13500	C:1
13501	C:1
13502	C:1
13503	C:1
13504	C:1
13505	C:1
13506	C:1
13507	C:1
13508	C:1
13509	C:1
13510	C:1
13511	C:1
13512	C:1
13513	C:1
13514	C:1
13515	C:1
13516	C:1
13517	C:1
13518	C:1
13519	C:1
13520	A:10
13521	C:1
13522	C:1
13523	C:1
13524	C:1
13525	C:1
13526	C:1
13527	C:1
13528	C:1
13529	C:1
13530	C:1
13531	C:1
13532	C:1
13533	C:1
13534	C:1
13535	C:1
13536	C:1
13537	C:1
13538	C:1
13539	C:1
13540	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13541	C:1
13542	C:1
13543	C:1
13544	C:1
13545	C:1
13546	C:1
13547	C:1
13548	C:1
13549	C:1
13550	C:1
13551	C:1
13552	C:1
13553	C:1
13554	C:1
13555	C:1
13556	C:1
13557	H:1
13558	C:1
13559	C:1
13560	C:1
13561	C:1
13562	C:1
13563	C:1
13564	C:1
13565	C:1
13566	C:1
13567	C:1
13568	C:1
13569	C:1
13570	C:1
13571	C:1
13572	C:1
13573	C:1
13574	C:1
13575	C:1
13576	C:1
13577	C:1
13578	C:1
13579	C:1
13580	C:1
13581	C:1
13582	C:1
13583	C:1
13584	C:1
13585	C:1
13586	C:1
13587	C:1
13588	C:1
13589	C:1
13590	C:1
13591	C:1
13592	H:2
13593	C:1
13594	C:1
13595	C:1
13596	C:1
13597	C:1
13598	C:1
13599	C:1
13600	C:1
13601	C:1
13602	C:1
13603	C:1
13604	C:1
13605	C:1
13606	C:1
13607	C:1
13608	C:1
13609	C:1
13610	D:1
13611	D:1
13612	D:1
13613	D:1
13614	H:4
13615	D:1
13616	D:1
13617	D:1
13618	D:1
13619	D:1
13620	D:1
13621	K:6
13622	D:1
13623	D:1
13624	D:1
13625	D:1
13626	D:1
13627	H:48
13628	D:1
13629	D:1
13630	D:1
13631	D:1
13632	D:1
13633	D:1
13634	D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13635	D:1
13636	H:1
13637	D:1
13638	D:1
13639	D:1
13640	D:1
13641	D:1
13642	H:1
13643	D:1
13644	D:1
13645	D:1
13646	D:1
13647	D:1
13648	H:1
13649	D:1
13650	D:1
13651	D:1
13652	D:1
13653	A:4
13654	D:1
13655	D:1
13656	D:1
13657	D:1
13658	D:1
13659	D:1
13660	D:1
13661	D:1
13662	D:1
13663	D:1
13664	D:1
13665	D:1
13666	D:1
13667	D:1
13668	D:1
13669	D:1
13670	D:1
13671	D:1
13672	D:1
13673	D:1
13674	H:1
13675	H:1 I:5
13676	D:1
13677	D:1
13678	D:1
13679	D:1
13680	D:1
13681	D:1

Seq Id No.	Tissue distribution
13682	D:1
13683	D:1
13684	D:1
13685	D:1
13686	D:1
13687	D:1
13688	D:1
13689	D:1
13690	F:2 K:7
13691	D:1
13692	D:1
13693	D:1
13694	D:1
13695	D:1
13696	D:1
13697	D:1
13698	D:1
13699	D:1
13700	D:1
13701	D:1
13702	D:1
13703	D:1
13704	D:1
13705	D:1
13706	D:1
13707	D:1
13708	D:1
13709	D:1
13710	D:1
13711	D:1
13712	F:1 H:7
13713	D:1
13714	D:1
13715	D:1
13716	D:1
13717	D:1
13718	D:1
13719	D:1
13720	D:1
13721	D:1
13722	K:4
13723	D:1
13724	D:1
13725	D:1
13726	D:1
13727	D:1
13728	D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13729	D:1
13730	D:1
13731	K:3
13732	D:1
13733	D:1
13734	D:1
13735	B:2
13736	D:1
13737	D:1
13738	D:1
13739	D:1
13740	D:1
13741	D:1
13742	D:1
13743	D:1
13744	D:1
13745	D:1
13746	D:1
13747	D:1
13748	D:1
13749	D:1
13750	D:1
13751	K:1
13752	D:1
13753	D:1
13754	D:1
13755	D:1
13756	D:1
13757	D:1
13758	D:1
13759	D:1
13760	F:1
13761	D:1
13762	D:1
13763	D:1
13764	D:1
13765	D:1
13766	D:1
13767	H:23
13768	D:1
13769	D:1
13770	D:1
13771	D:1
13772	D:1
13773	D:1
13774	F:3 K:17
13775	D:1
13776	D:1
13777	D:1
13778	D:1
13779	K:2
13780	D:1
13781	D:1
13782	D:1
13783	D:1
13784	D:1
13785	D:1
13786	D:1
13787	D:1
13788	B:4 D:3 F:1 H:1 K:5
13789	D:1
13790	D:1
13791	D:1
13792	D:1
13793	D:1
13794	D:1
13795	D:1
13796	A:1
13797	D:1
13798	D:1
13799	D:1
13800	D:1
13801	C:1
13802	D:1
13803	D:1
13804	D:1
13805	D:1
13806	D:1
13807	D:1
13808	D:1
13809	F:2 K:1
13810	D:1
13811	D:1
13812	D:1
13813	D:1
13814	D:1
13815	D:1
13816	D:1
13817	D:1
13818	D:1
13819	D:1
13820	D:1
13821	D:1
13822	D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13823	D:1
13824	D:1
13825	D:1
13826	D:1
13827	D:1
13828	D:1
13829	D:1
13830	D:1
13831	D:1
13832	D:1
13833	D:1
13834	D:1
13835	C:8
13836	D:1
13837	D:1
13838	D:1
13839	D:1
13840	D:1
13841	D:1
13842	D:1
13843	D:1
13844	D:1
13845	D:1
13846	D:1
13847	D:1
13848	D:1
13849	D:1
13850	F:1 K:3
13851	D:1
13852	D:1
13853	D:1
13854	D:1
13855	D:1
13856	D:1
13857	D:1
13858	D:1
13859	F:16 K:3
13860	D:1
13861	D:1
13862	D:1
13863	D:1
13864	D:1
13865	D:1
13866	D:1
13867	D:1
13868	D:1
13869	D:1

Seq Id No.	Tissue distribution
13870	F:1 K:1
13871	D:1
13872	D:1
13873	D:1
13874	D:1
13875	D:1
13876	D:1
13877	D:1
13878	C:1
13879	K:2
13880	D:1
13881	D:1
13882	D:1
13883	D:1
13884	D:1
13885	D:1
13886	D:1
13887	D:1
13888	D:1
13889	D:1
13890	D:1
13891	K:2
13892	D:1
13893	D:1
13894	D:1
13895	D:1
13896	D:1
13897	D:1
13898	D:1
13899	D:1
13900	D:1
13901	D:1
13902	D:1
13903	D:1
13904	D:1
13905	D:1
13906	D:1
13907	D:1
13908	D:1
13909	D:1
13910	D:1
13911	K:2
13912	D:1
13913	D:1
13914	D:1
13915	D:1
13916	D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
13917	D:1
13918	D:1
13919	D:1
13920	D:1
13921	D:1
13922	A:1 F:1
13923	D:1
13924	D:1
13925	D:1
13926	D:1
13927	D:1
13928	D:1
13929	D:1
13930	D:1
13931	K:2
13932	D:1
13933	D:1
13934	D:1
13935	D:1
13936	D:1
13937	D:1
13938	D:1
13939	D:1
13940	D:1
13941	D:1
13942	D:1
13943	F:1
13944	F:1
13945	F:1
13946	F:1
13947	F:6
13948	F:1
13949	F:1
13950	F:1
13951	F:1
13952	F:1
13953	F:1
13954	F:1
13955	F:1
13956	F:1
13957	A:1
13958	F:1
13959	F:1
13960	F:1
13961	F:1
13962	F:1
13963	F:1
13964	F:1
13965	F:1
13966	F:1
13967	F:1
13968	F:1
13969	F:1 K:1
13970	F:1
13971	F:1
13972	F:1
13973	F:1
13974	F:1
13975	F:1
13976	F:1
13977	F:1
13978	F:1
13979	F:1
13980	F:1
13981	F:1
13982	F:1
13983	F:1
13984	F:1
13985	F:1
13986	F:1
13987	F:1
13988	F:1
13989	F:1
13990	F:1
13991	F:1
13992	F:1
13993	F:1
13994	F:1
13995	F:1
13996	F:1
13997	F:1
13998	F:1
13999	F:1
14000	F:1
14001	F:1
14002	F:1
14003	F:1
14004	F:1
14005	F:1
14006	F:1
14007	F:1
14008	F:1
14009	F:1
14010	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14011	F:1
14012	F:1
14013	F:1
14014	F:1
14015	F:1
14016	F:1
14017	F:1
14018	F:1
14019	F:1
14020	F:1
14021	F:1
14022	F:10 K:2
14023	F:1
14024	F:1
14025	F:1
14026	F:1
14027	F:1
14028	F:1
14029	F:1
14030	F:1
14031	F:1
14032	F:1
14033	F:1
14034	F:1
14035	A:1
14036	A:1
14037	A:1
14038	A:1
14039	A:1
14040	A:1
14041	A:1
14042	A:1
14043	A:1
14044	A:1
14045	A:1
14046	A:1
14047	A:1
14048	A:1
14049	A:1
14050	A:1
14051	A:1
14052	A:1
14053	A:1
14054	A:1
14055	A:1
14056	A:1
14057	A:1

Seq Id No.	Tissue distribution
14058	A:1
14059	A:1
14060	A:1
14061	A:1
14062	A:1
14063	A:1
14064	A:1
14065	I:2
14066	A:1
14067	A:1
14068	A:1
14069	A:1
14070	A:1
14071	A:1
14072	A:1
14073	A:1
14074	A:1
14075	K:2
14076	A:1
14077	A:1
14078	A:1
14079	A:1
14080	A:1
14081	A:1
14082	A:1
14083	A:1
14084	A:1
14085	A:1
14086	A:1
14087	A:1
14088	K:3
14089	A:1
14090	A:1
14091	A:1
14092	A:1
14093	F:1 K:2
14094	K:2
14095	A:1
14096	A:1
14097	A:1
14098	A:1
14099	A:1
14100	A:1
14101	A:1
14102	A:1
14103	A:1
14104	B:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14105	A:1
14106	A:1
14107	A:1
14108	A:1
14109	A:1
14110	A:1
14111	A:1
14112	A:1
14113	A:1
14114	A:1
14115	A:1
14116	A:1
14117	A:1
14118	A:1
14119	A:1
14120	A:1
14121	A:1
14122	A:1
14123	A:1
14124	A:1
14125	A:1
14126	A:1
14127	A:1
14128	A:1
14129	A:1
14130	A:1
14131	A:1
14132	A:1
14133	A:1
14134	D:1 J:2
14135	A:1
14136	A:1
14137	A:1
14138	A:1
14139	A:1
14140	A:1
14141	A:1
14142	A:1
14143	A:1 J:2
14144	A:1
14145	A:1
14146	A:1
14147	A:1
14148	A:1
14149	A:1
14150	A:1
14151	A:1

Seq Id No.	Tissue distribution
14152	A:1
14153	A:1
14154	A:1
14155	A:1
14156	A:1
14157	A:1
14158	A:1
14159	A:1
14160	A:1
14161	A:1
14162	A:1
14163	A:1
14164	A:1
14165	A:1
14166	A:1
14167	A:1
14168	A:1
14169	A:1
14170	A:1
14171	A:1
14172	A:1
14173	A:1
14174	A:1
14175	A:1
14176	A:1
14177	A:1
14178	A:1
14179	A:1
14180	B:3
14181	A:1
14182	A:1
14183	A:1
14184	A:1
14185	A:1
14186	A:1
14187	A:1
14188	A:1
14189	A:1
14190	A:1
14191	A:1
14192	A:1
14193	A:1
14194	A:1
14195	A:1
14196	A:1
14197	A:1
14198	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution	Seq Id No.	Tissue distribution
14199	A:1	14246	A:1
14200	A:1	14247	A:1
14201	A:1	14248	A:1
14202	A:1	14249	A:1
14203	A:1	14250	C:8
14204	A:1	14251	A:1
14205	A:1	14252	A:1
14206	A:1	14253	A:1
14207	A:1	14254	A:1
14208	A:1	14255	A:1
14209	A:1	14256	A:1
14210	B:1	14257	A:1
14211	A:1	14258	A:1
14212	A:1	14259	A:1
14213	A:1	14260	A:1
14214	A:1	14261	A:1
14215	A:1	14262	A:1
14216	A:1	14263	A:1
14217	A:1	14264	A:1
14218	A:1	14265	A:1
14219	A:1	14266	H:1
14220	A:1	14267	A:1
14221	A:1	14268	A:1
14222	A:1	14269	A:1
14223	A:1	14270	A:1
14224	C:1 F:1 K:1	14271	A:1
14225	A:1	14272	A:1
14226	A:1	14273	A:1
14227	A:1	14274	A:1
14228	A:1	14275	A:1
14229	A:1	14276	A:1
14230	A:1	14277	A:1
14231	A:1	14278	B:3 C:6 H:1
14232	B:1 C:1	14279	A:1
14233	A:1	14280	A:1
14234	A:1	14281	A:1
14235	A:1	14282	A:1
14236	A:1	14283	A:1
14237	A:1	14284	A:1
14238	A:1	14285	A:1
14239	A:1	14286	F:13 K:6
14240	D:1	14287	A:1
14241	A:1	14288	A:1
14242	A:1	14289	A:1
14243	A:1	14290	A:1
14244	A:1	14291	A:1
14245	A:1	14292	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14293	A:1
14294	A:1
14295	A:1 C:5
14296	A:1
14297	A:1
14298	A:1
14299	A:1
14300	A:1
14301	A:1
14302	A:1
14303	A:1
14304	F:5 K:1
14305	A:1
14306	A:1
14307	A:1
14308	A:1
14309	A:1
14310	A:1
14311	A:1
14312	K:2
14313	A:1
14314	A:1
14315	A:1
14316	A:1
14317	A:1
14318	K:1
14319	A:1
14320	A:1
14321	A:1
14322	A:1
14323	A:1
14324	A:1
14325	A:1
14326	A:1
14327	A:1
14328	A:1
14329	A:1
14330	A:1
14331	A:1
14332	A:1
14333	A:1
14334	A:1
14335	A:1
14336	A:1
14337	A:1
14338	A:1
14339	A:1
14340	A:1
14341	C:2
14342	A:1
14343	A:1
14344	A:1
14345	A:1
14346	A:1
14347	A:1
14348	A:1
14349	A:1
14350	A:1
14351	A:1
14352	A:1
14353	A:1
14354	A:1
14355	A:1
14356	A:1
14357	A:1
14358	A:1
14359	A:1
14360	A:1
14361	A:1
14362	A:1
14363	A:1
14364	A:1
14365	A:1
14366	A:1
14367	H:3
14368	A:1
14369	A:1
14370	A:1
14371	A:1
14372	A:1
14373	A:1
14374	A:1
14375	A:1
14376	A:1
14377	A:1
14378	A:1
14379	A:1
14380	A:1
14381	A:1
14382	A:1
14383	A:1
14384	A:1
14385	A:1
14386	K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14387	A:1
14388	A:1
14389	A:1
14390	A:1
14391	A:1
14392	K:1
14393	A:1
14394	A:1
14395	A:1
14396	A:1
14397	A:1
14398	A:1
14399	A:1
14400	A:1
14401	A:1
14402	A:1
14403	A:1
14404	A:1
14405	A:1
14406	A:1
14407	A:1
14408	A:1
14409	A:1
14410	A:1
14411	A:1
14412	A:1
14413	A:1
14414	A:1
14415	A:1
14416	A:1
14417	A:1
14418	A:1
14419	A:1
14420	A:1
14421	A:1
14422	A:1
14423	A:1
14424	A:1
14425	A:1
14426	A:1
14427	F:1 K:1
14428	A:1
14429	A:1
14430	A:1
14431	A:1
14432	A:1
14433	A:1

Seq Id No.	Tissue distribution
14434	A:1
14435	A:1
14436	A:1
14437	A:1
14438	A:1
14439	A:1
14440	A:1
14441	A:1
14442	A:1
14443	A:1
14444	A:1
14445	A:1
14446	A:1
14447	A:1
14448	A:1
14449	A:1
14450	A:1
14451	A:1
14452	A:1
14453	A:1
14454	A:1
14455	H:2
14456	A:1
14457	A:1
14458	A:1
14459	A:1
14460	A:1
14461	A:1
14462	A:1
14463	A:1
14464	A:1
14465	F:1 K:1
14466	A:1
14467	A:1
14468	A:1
14469	A:1
14470	A:1
14471	A:1
14472	A:1
14473	A:1
14474	A:1
14475	H:3
14476	A:1
14477	A:1
14478	A:1
14479	A:1
14480	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14481	A:1
14482	A:1
14483	A:1
14484	A:1
14485	A:1
14486	A:1
14487	A:1
14488	A:1
14489	A:1
14490	A:1
14491	A:1
14492	A:1
14493	A:1
14494	A:1
14495	A:1
14496	A:1
14497	A:1
14498	A:1
14499	A:1
14500	A:1
14501	A:1
14502	A:1
14503	A:1
14504	A:1
14505	A:1
14506	A:1
14507	A:1
14508	B:4
14509	A:1
14510	A:1
14511	A:1
14512	A:1
14513	A:1
14514	A:1
14515	A:1
14516	A:1
14517	A:1
14518	A:1
14519	K:2
14520	A:1
14521	A:1
14522	A:1
14523	A:1
14524	A:1
14525	A:1
14526	A:1
14527	A:1

Seq Id No.	Tissue distribution
14528	A:1
14529	F:1 K:1
14530	A:1
14531	A:1
14532	A:1
14533	A:1
14534	A:1
14535	A:1
14536	A:1
14537	A:1
14538	H:3
14539	A:1
14540	A:1
14541	A:1
14542	A:1
14543	A:1
14544	A:1
14545	A:1
14546	A:19 B:16 C:31 D:14 F:2 H:17 K:3
14547	A:1
14548	A:1
14549	A:1
14550	A:1
14551	A:1
14552	A:1
14553	A:1
14554	A:1
14555	A:1
14556	A:1
14557	A:1
14558	A:1
14559	H:3
14560	A:1
14561	A:1
14562	A:1
14563	A:1
14564	A:1
14565	A:1
14566	A:1
14567	A:1
14568	A:1
14569	A:1
14570	A:1
14571	A:1
14572	A:1
14573	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14574	A:1
14575	A:1
14576	A:1
14577	A:1
14578	A:1
14579	A:1
14580	A:1
14581	A:1
14582	A:1
14583	A:1
14584	A:1
14585	A:1
14586	A:1
14587	A:1
14588	A:1
14589	A:1
14590	A:1
14591	A:1
14592	A:1
14593	A:1
14594	A:1
14595	K:2
14596	A:1
14597	A:1
14598	A:1
14599	A:1
14600	A:1
14601	A:1
14602	A:1
14603	A:1
14604	B:4
14605	A:1
14606	A:1
14607	A:1
14608	A:1
14609	A:1
14610	H:2
14611	A:1
14612	A:1
14613	A:1
14614	A:1
14615	A:1
14616	A:1
14617	A:1
14618	A:1
14619	A:1
14620	A:1
14621	A:1
14622	A:1
14623	A:1
14624	B:2
14625	A:1
14626	A:1
14627	A:1
14628	A:1
14629	A:1
14630	F:10 K:5
14631	A:1
14632	A:1
14633	A:1
14634	A:1
14635	A:1
14636	A:1
14637	A:1
14638	A:1
14639	A:1
14640	A:1
14641	A:1
14642	A:1
14643	A:1
14644	A:1
14645	A:1
14646	A:1
14647	A:1
14648	A:1
14649	A:1
14650	A:1
14651	A:1
14652	A:1
14653	A:1
14654	B:1 C:106 H:1
14655	A:1
14656	A:1
14657	A:1
14658	A:1
14659	A:1
14660	A:1
14661	A:1
14662	A:1
14663	A:1
14664	A:1
14665	A:1
14666	A:1
14667	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14668	A:1
14669	A:1
14670	A:1
14671	A:1
14672	A:1
14673	B:1
14674	A:1
14675	A:1
14676	A:1
14677	A:1
14678	A:1
14679	A:1
14680	A:1
14681	A:1
14682	A:1
14683	A:1
14684	A:1
14685	A:1
14686	A:1
14687	A:1
14688	A:1
14689	A:1
14690	A:1
14691	C:1
14692	A:1
14693	A:1
14694	A:1
14695	A:1
14696	A:1
14697	A:1
14698	A:1
14699	A:1
14700	A:1
14701	B:1
14702	A:1
14703	A:1
14704	A:1
14705	A:1
14706	A:1
14707	A:1
14708	A:1
14709	F:3 K:2
14710	A:1
14711	A:1
14712	A:1
14713	A:1
14714	A:1
14715	A:1
14716	A:1
14717	A:1
14718	A:1
14719	K:2
14720	A:1
14721	A:1
14722	A:1
14723	A:1
14724	A:1
14725	A:1
14726	A:1
14727	A:1
14728	A:1
14729	A:1
14730	B:3
14731	A:1
14732	A:1
14733	A:1
14734	A:1
14735	A:1
14736	A:1
14737	A:1
14738	A:1
14739	A:1
14740	A:1
14741	A:1
14742	A:1
14743	A:1
14744	A:1
14745	A:1
14746	F:1 K:2
14747	A:1
14748	A:1
14749	A:1
14750	A:1
14751	A:1
14752	A:1
14753	A:1
14754	A:1
14755	A:1
14756	A:1
14757	A:1
14758	A:1
14759	A:1
14760	A:1
14761	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14762	A:1
14763	A:1
14764	A:1
14765	A:1
14766	A:1
14767	A:1
14768	A:1
14769	A:1
14770	A:1
14771	A:1
14772	A:1
14773	A:1
14774	A:1
14775	A:1
14776	A:1
14777	A:1
14778	A:1
14779	A:1
14780	A:1
14781	B:1
14782	A:1
14783	A:1
14784	A:1
14785	A:1
14786	A:1
14787	A:1
14788	A:1
14789	K:1
14790	A:1
14791	A:1
14792	A:1
14793	A:1
14794	A:1
14795	A:1
14796	A:1
14797	A:1
14798	B:1
14799	A:1
14800	A:1
14801	A:1
14802	A:1
14803	A:1
14804	A:1
14805	A:1
14806	A:1
14807	F:1
14808	A:1
14809	A:1
14810	A:1
14811	A:1
14812	A:1
14813	A:1
14814	A:1
14815	A:1
14816	A:1
14817	B:4 C:1 D:1
14818	A:1
14819	A:1
14820	A:1
14821	A:1
14822	A:1
14823	A:1
14824	A:1
14825	A:1
14826	A:1
14827	A:1
14828	A:1
14829	A:1
14830	A:1
14831	A:1
14832	A:1
14833	A:1
14834	A:1
14835	A:1
14836	A:1
14837	A:1
14838	A:1
14839	A:1
14840	A:1
14841	A:1
14842	A:1
14843	A:1
14844	A:1
14845	A:1
14846	A:1
14847	A:1
14848	A:1
14849	A:1
14850	A:1
14851	A:1
14852	C:9
14853	A:1
14854	A:1
14855	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14856	A:1
14857	A:1
14858	A:1
14859	A:1
14860	A:1
14861	A:1
14862	B:1
14863	A:1
14864	A:1
14865	A:1
14866	A:1
14867	A:1
14868	A:1
14869	A:1
14870	F:1
14871	A:1
14872	A:1
14873	A:1
14874	A:1
14875	A:1
14876	A:1
14877	A:1
14878	A:1
14879	A:1
14880	A:1
14881	A:1
14882	A:1
14883	A:1
14884	A:1
14885	A:1
14886	A:1
14887	A:1
14888	A:1
14889	A:1
14890	A:1
14891	A:1
14892	A:1
14893	A:1
14894	A:1
14895	A:1
14896	A:1
14897	A:1
14898	A:1
14899	A:1
14900	A:1
14901	A:1
14902	A:1

Seq Id No.	Tissue distribution
14903	A:1
14904	A:1
14905	A:1
14906	A:1
14907	A:1
14908	A:1
14909	A:1
14910	A:1
14911	A:1
14912	A:1
14913	A:1
14914	A:1
14915	A:1
14916	A:1
14917	A:1
14918	A:1
14919	A:1
14920	A:1
14921	A:1
14922	A:1
14923	A:1
14924	A:1
14925	A:1
14926	A:1
14927	A:1
14928	A:1
14929	A:1
14930	A:1
14931	A:1
14932	A:1
14933	F:1 K:1
14934	A:1
14935	A:1
14936	A:1
14937	A:1
14938	A:1
14939	A:1
14940	A:1
14941	A:1
14942	A:1
14943	A:1
14944	A:1
14945	A:1
14946	A:1
14947	A:1
14948	A:1
14949	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
14950	A:1
14951	A:1
14952	A:1
14953	A:1
14954	A:1
14955	A:1
14956	F:1 K:1
14957	A:1
14958	A:1
14959	A:1
14960	A:1
14961	A:1
14962	A:1
14963	A:1
14964	H:5
14965	A:1
14966	A:1
14967	A:1
14968	A:1
14969	A:1
14970	A:1
14971	A:1
14972	A:1
14973	A:1
14974	A:1
14975	A:1
14976	A:1
14977	A:1
14978	A:1
14979	A:1
14980	A:1
14981	A:1
14982	A:1
14983	A:1
14984	A:1
14985	A:1
14986	F:1
14987	A:1
14988	A:1
14989	A:1
14990	A:1
14991	A:1
14992	A:1
14993	A:1
14994	A:1
14995	K:1
14996	A:1

Seq Id No.	Tissue distribution
14997	A:1
14998	A:1
14999	A:1
15000	A:1
15001	A:1
15002	A:1
15003	A:1
15004	A:1
15005	B:4
15006	A:1
15007	A:1
15008	A:1
15009	A:1
15010	A:1
15011	A:1
15012	A:1
15013	A:8 B:23 C:7 D:1 H:1 I:1 K:3
15014	A:1
15015	A:1
15016	A:1
15017	A:1
15018	A:1
15019	A:1
15020	A:1
15021	A:1
15022	A:1
15023	B:1
15024	A:1
15025	A:1
15026	A:1
15027	A:1
15028	A:1
15029	A:1
15030	A:1
15031	A:1
15032	H:1 K:1
15033	A:1
15034	A:1
15035	A:1
15036	A:1
15037	A:1
15038	A:1
15039	A:1
15040	A:1
15041	A:1
15042	F:1 K:4
15043	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15044	A:1
15045	A:1
15046	A:1
15047	A:1
15048	A:1
15049	A:1
15050	A:1
15051	A:1
15052	A:1
15053	A:5
15054	A:1
15055	A:1
15056	A:1
15057	A:1
15058	A:1
15059	A:1
15060	A:1
15061	A:1
15062	A:1
15063	A:1
15064	A:1
15065	A:1
15066	A:1
15067	A:1
15068	A:1
15069	A:1
15070	A:1
15071	A:1
15072	A:1
15073	A:1
15074	A:1
15075	A:1
15076	A:1
15077	C:3
15078	A:1
15079	A:1
15080	A:1
15081	A:1
15082	A:1
15083	A:1
15084	A:1
15085	A:1
15086	A:1
15087	A:1
15088	B:4 C:1
15089	A:1
15090	A:1
15091	A:1
15092	A:1
15093	A:1
15094	A:1
15095	F:1 K:1
15096	K:1
15097	A:1 H:1
15098	A:3
15099	F:1
15100	H:1
15101	C:3 F:1 J:2
15102	H:2
15103	A:2 H:5
15104	F:4 K:8
15105	F:3 K:4
15106	K:1
15107	K:1
15108	A:4
15109	K:1
15110	H:2
15111	B:5
15112	K:1
15113	H:2
15114	F:2 H:4 K:2
15115	C:1 H:2
15116	F:11
15117	H:1
15118	F:1 K:1
15119	F:1 K:1
15120	K:3
15121	K:2
15122	K:3
15123	H:3
15124	B:2
15125	F:11 K:3
15126	A:2
15127	A:1
15128	A:1
15129	C:55 H:1 K:2
15130	A:2
15131	F:1 K:2
15132	K:2
15133	K:1
15134	K:1
15135	B:2
15136	F:5 K:2
15137	H:5

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15138	A:4
15139	F:9 K:2
15140	A:3
15141	A:8 B:2 C:23 J:1
15142	K:1
15143	B:2
15144	K:1
15145	F:2
15146	C:3
15147	H:2
15148	K:3
15149	B:4
15150	F:1 K:3
15151	A:2
15152	H:1
15153	F:1 K:1
15154	I:3
15155	C:1 H:3
15156	K:1
15157	K:3
15158	B:2
15159	A:2
15160	B:1 C:1
15161	H:1
15162	H:3
15163	A:1
15164	F:2 K:6
15165	F:1 K:4
15166	C:6
15167	K:1
15168	B:2
15169	C:1
15170	C:10
15171	K:2
15172	A:1
15173	A:1 B:1
15174	A:6
15175	A:5
15176	K:1
15177	B:2
15178	H:2
15179	B:2
15180	A:1 H:1
15181	K:3
15182	H:14
15183	K:2
15184	F:1 K:3
15185	A:4
15186	A:3
15187	H:2
15188	K:3
15189	F:1 K:1
15190	F:1 K:1
15191	F:1 K:1
15192	B:3
15193	C:2
15194	F:2 K:1
15195	F:1 K:1
15196	A:1 B:11 C:20 D:1 H:2 K:1
15197	B:5 C:1 D:1 K:1
15198	A:1 B:1 C:7 D:1 H:1 K:1
15199	B:1 C:1 D:2 K:1
15200	A:4 B:31 C:72 D:20 F:3 H:29 I:3 J:3 K:19
15201	A:6 B:2 F:2 H:3 K:1
15202	A:4 B:27 C:60 D:18 F:1 H:16 I:3 J:2 K:12
15203	H:1
15204	C:1
15205	D:1
15206	C:1
15207	C:1
15208	B:1
15209	C:1
15210	H:1
15211	K:3
15212	F:1 K:1
15213	K:3
15214	F:1 K:1
15215	F:1 K:1
15216	H:2
15217	K:2
15218	K:2
15219	F:7 K:1
15220	A:1 C:10 D:1
15221	F:1
15222	F:1 K:4
15223	F:5
15224	K:2
15225	D:1 H:1
15226	A:6
15227	B:3 C:1
15228	K:2
15229	C:10

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15230	C:1
15231	A:1 B:5 C:2 F:1 K:2
15232	A:2
15233	F:1
15234	F:1
15235	H:2
15236	H:6
15237	A:1 C:1 H:3 K:1
15238	A:1 C:1 H:4
15239	K:2
15240	F:1 K:2
15241	B:5
15242	H:2
15243	C:6
15244	H:42
15245	F:1 K:2
15246	H:1
15247	K:2
15248	K:3
15249	H:1
15250	B:2
15251	C:1 H:1
15252	A:1
15253	I:3
15254	K:2
15255	D:1
15256	B:3
15257	K:4
15258	F:1 K:1
15259	C:1 J:1
15260	H:2
15261	K:7
15262	K:2
15263	K:1
15264	C:2
15265	K:2
15266	B:2
15267	F:4
15268	K:1
15269	K:1
15270	K:1
15271	F:1
15272	C:1
15273	I:2
15274	H:1
15275	J:1
15276	C:1
15277	A:1
15278	A:1
15279	B:2
15280	B:2
15281	F:8 K:1
15282	F:10 K:2
15283	F:1 K:1
15284	B:2
15285	B:3
15286	F:1
15287	K:1
15288	A:2 B:1
15289	B:2
15290	B:4
15291	B:2
15292	B:2
15293	B:2
15294	F:277 K:66
15295	K:1
15296	B:2
15297	D:3 F:6 K:25
15298	K:1
15299	F:1 K:2
15300	H:2
15301	C:26
15302	C:1
15303	F:1 K:6
15304	A:2
15305	A:2
15306	A:1
15307	A:1
15308	B:3
15309	F:1 K:6
15310	K:3
15311	C:6
15312	F:12 K:6
15313	K:1
15314	F:1
15315	F:1 K:1
15316	K:1
15317	K:1
15318	K:1
15319	F:1
15320	F:1
15321	F:1
15322	F:1
15323	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15324	C:3
15325	F:1 K:3
15326	B:2
15327	F:6 K:2
15328	B:2
15329	K:1
15330	F:7 K:3
15331	I:2
15332	A:1
15333	K:1
15334	A:2
15335	K:1
15336	F:3
15337	K:1
15338	K:2
15339	F:14 K:2
15340	B:2
15341	C:45
15342	K:1
15343	C:1
15344	H:8
15345	A:12
15346	F:2
15347	F:4
15348	F:9 K:2
15349	H:2
15350	F:1
15351	K:1
15352	K:1
15353	A:1
15354	K:2
15355	K:1
15356	F:11 K:6
15357	F:1
15358	F:1
15359	F:1
15360	F:1
15361	K:1
15362	F:1
15363	H:6
15364	F:1
15365	F:1
15366	K:1
15367	F:1
15368	F:1 K:2
15369	F:2 K:6
15370	F:1
15371	A:2
15372	F:5
15373	C:2
15374	C:4
15375	B:2
15376	K:2
15377	A:3
15378	A:2 B:1 C:1 D:1 H:1 I:1 K:1
15379	A:7
15380	B:2
15381	F:3
15382	H:1
15383	H:2
15384	F:2
15385	F:2
15386	F:1 K:4
15387	B:1
15388	K:1
15389	K:1
15390	C:3 J:2
15391	B:3
15392	H:5
15393	K:1
15394	B:6
15395	F:1
15396	K:1
15397	F:2
15398	F:2
15399	B:3
15400	D:1 I:1
15401	K:2
15402	H:2
15403	K:5
15404	A:2 B:3 C:2 D:1 E:1 H:2 I:1 K:1
15405	A:9 B:9 C:12 D:5 E:1 F:1 H:8 I:1 K:4
15406	A:2 B:3 C:3 D:1 E:1 H:2 I:1 K:1
15407	A:2
15408	K:2
15409	C:1
15410	C:1
15411	K:1
15412	F:1
15413	A:4
15414	K:1
15415	C:4
15416	A:6

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15417	F:2
15418	C:5 J:1
15419	D:1 F:8 H:3 K:64
15420	B:3
15421	F:2
15422	K:2
15423	A:3
15424	F:5
15425	C:7
15426	A:1 B:2
15427	K:1
15428	F:3
15429	B:3
15430	H:3
15431	H:2
15432	K:3
15433	A:1 C:1 I:2
15434	C:1
15435	F:2
15436	K:1
15437	F:1
15438	F:1
15439	F:1
15440	F:1
15441	F:1
15442	F:3 K:1
15443	C:10
15444	A:4
15445	F:1 K:5
15446	K:1
15447	F:9 K:7
15448	K:2
15449	B:2
15450	C:10
15451	F:2
15452	C:3
15453	F:15 K:84
15454	K:2
15455	A:1 B:1
15456	K:1
15457	C:2
15458	H:1
15459	F:3 K:1
15460	F:2 K:1
15461	K:1
15462	A:2
15463	H:5
15464	F:1 K:1
15465	H:1
15466	A:1 B:3 C:1
15467	H:1
15468	H:1
15469	H:1
15470	H:1
15471	K:2
15472	D:1
15473	B:3
15474	B:3
15475	A:2
15476	B:1 F:6 H:4
15477	K:3
15478	D:1 H:1
15479	B:2
15480	H:2
15481	F:1 K:1
15482	C:3 J:1
15483	H:3
15484	A:2
15485	A:4
15486	K:3
15487	A:2
15488	B:5
15489	K:2
15490	A:3 B:5 C:253 D:5 F:5 H:6 J:7 K:6
15491	A:8 B:3 D:2
15492	F:3 K:2
15493	C:2
15494	C:8
15495	A:1
15496	A:1
15497	K:1
15498	F:2
15499	A:2
15500	B:2
15501	K:2
15502	K:2
15503	K:3
15504	H:1
15505	H:1
15506	K:1
15507	F:1
15508	K:1
15509	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution	Seq Id No.	Tissue distribution
15510	K:1	15556	H:4
15511	C:1	15557	C:26
15512	F:24 K:4	15558	A:1 C:24
15513	A:2 B:1 C:1 I:1	15559	C:1
15514	C:1	15560	J:4
15515	F:5	15561	I:2
15516	H:2	15562	F:3 K:9
15517	F:3 K:1	15563	A:2
15518	B:5	15564	F:13
15519	F:3 K:1	15565	F:1 K:1
15520	A:13 B:69 C:71 D:3 F:2 H:33 J:3 K:1	15566	F:5 K:2
15521	K:1	15567	A:7
15522	K:1	15568	A:34 B:8
15523	A:11	15569	I:2
15524	K:3	15570	F:3
15525	K:3	15571	F:1 K:1
15526	K:1	15572	K:2
15527	K:1	15573	A:17 B:53 C:55 D:4 F:3 H:25 J:3 K:1
15528	K:1	15574	K:3
15529	K:2	15575	H:2
15530	K:1	15576	A:2
15531	B:3	15577	F:1 K:3
15532	F:5 K:2	15578	K:4
15533	K:1	15579	A:1
15534	B:2	15580	I:2
15535	K:1	15581	H:2
15536	H:2	15582	I:2
15537	H:3	15583	A:2
15538	K:1	15584	H:2
15539	K:2	15585	D:1
15540	F:1 K:1	15586	F:1 K:12
15541	A:1 C:1	15587	K:1
15542	A:339	15588	C:21
15543	A:1	15589	A:1
15544	F:1 K:5	15590	K:2
15545	F:1 K:1	15591	K:3
15546	H:2	15592	B:3
15547	H:2	15593	F:2 K:1
15548	C:7	15594	H:29
15549	C:1	15595	C:1 H:1
15550	A:5	15596	C:5
15551	A:1	15597	B:2
15552	C:4	15598	F:1 H:1
15553	H:44	15599	H:1
15554	C:3	15600	A:5
15555	K:5	15601	I:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15602	I:1
15603	C:14
15604	B:3
15605	C:14
15606	F:1 K:2
15607	K:2
15608	K:2
15609	B:2
15610	F:1 K:4
15611	B:1
15612	F:1 K:1
15613	F:33 K:7
15614	A:11 B:2 C:1 D:2 H:3 K:1
15615	F:3
15616	A:1
15617	B:2
15618	F:1 K:1
15619	F:1 K:2
15620	D:1
15621	A:2
15622	K:2
15623	C:1 H:5
15624	K:1
15625	K:1
15626	K:1
15627	K:3
15628	A:2
15629	F:1 K:2
15630	H:1 K:1
15631	B:6
15632	A:2
15633	H:3
15634	F:1 K:1
15635	K:2
15636	K:3
15637	F:1 K:1
15638	I:2
15639	C:4 H:1 K:1
15640	C:75
15641	F:2
15642	F:1 K:1
15643	C:16
15644	F:1
15645	K:1
15646	B:2
15647	K:2
15648	F:1
15649	F:1 K:1
15650	A:1 H:1
15651	B:1 C:32 H:1
15652	B:1
15653	D:1
15654	B:1
15655	B:1
15656	B:1
15657	F:4 K:11
15658	A:5 B:4 C:8 D:3 F:1 H:8 K:1
15659	D:1 F:6 K:25
15660	C:1
15661	K:2
15662	A:4
15663	A:4
15664	A:1
15665	F:1 K:1
15666	K:2
15667	H:1
15668	B:1
15669	H:1
15670	F:3
15671	F:1
15672	K:1
15673	F:2
15674	F:3
15675	B:3
15676	A:2 F:3 H:1
15677	K:6
15678	F:7 K:17
15679	A:4
15680	H:2
15681	H:2
15682	B:4
15683	A:2
15684	F:2
15685	H:23
15686	H:1
15687	H:2 I:1
15688	H:3
15689	A:1
15690	F:2 K:1
15691	F:3 K:1
15692	B:1
15693	K:3
15694	F:1 H:2
15695	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15696	F:1
15697	K:2
15698	H:4
15699	F:1
15700	K:1
15701	F:1
15702	K:2
15703	I:2
15704	F:5 K:2
15705	A:2 C:7 J:1
15706	C:1
15707	K:1
15708	C:1
15709	H:2
15710	H:4
15711	A:19 B:70 C:72 D:4 F:3 H:37 J:3 K:1
15712	H:4
15713	I:1
15714	F:3
15715	A:5
15716	A:1
15717	A:1 C:2
15718	C:3
15719	A:2
15720	H:1
15721	F:4 K:5
15722	A:1 C:1 H:2
15723	H:1
15724	K:1
15725	A:1
15726	K:3
15727	B:2
15728	I:2
15729	D:1
15730	A:4 B:1
15731	A:3 H:1
15732	C:1
15733	H:2
15734	B:1 C:1
15735	H:2
15736	F:3
15737	B:1
15738	H:2 K:1
15739	K:2
15740	A:1 B:1
15741	B:1
15742	H:2
15743	F:3 K:1
15744	K:1
15745	C:1 H:2
15746	C:11
15747	C:38 H:154 I:1
15748	A:15 B:46 C:53 D:8 F:4 H:28 J:3 K:2
15749	B:1
15750	C:1
15751	C:1
15752	C:1
15753	C:1
15754	C:1
15755	C:1
15756	C:1
15757	C:1
15758	C:1
15759	C:1
15760	B:1
15761	H:1
15762	C:1
15763	H:1
15764	C:1
15765	C:1
15766	C:1
15767	C:1
15768	C:1
15769	C:1
15770	C:1
15771	C:1
15772	C:1
15773	C:1
15774	C:1
15775	C:1
15776	C:1
15777	H:1
15778	C:1
15779	C:1
15780	C:1
15781	C:1
15782	C:1
15783	C:1
15784	C:1
15785	C:1
15786	C:1
15787	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15788	C:1
15789	H:1
15790	C:1
15791	C:4
15792	C:1
15793	C:1
15794	H:1
15795	C:1
15796	C:1
15797	C:1
15798	H:1
15799	C:1
15800	C:1
15801	H:1
15802	K:3
15803	C:1
15804	C:1
15805	C:1
15806	C:1
15807	C:1
15808	C:1
15809	C:1
15810	C:1
15811	C:1
15812	C:1
15813	C:1
15814	C:1
15815	C:1
15816	C:1
15817	C:1
15818	C:1
15819	C:1
15820	C:1
15821	C:1
15822	C:1
15823	K:2
15824	C:1
15825	C:1
15826	C:1
15827	C:1
15828	C:1
15829	C:1
15830	C:1
15831	H:1
15832	H:1
15833	C:1
15834	C:1
15835	C:1
15836	C:1
15837	C:1
15838	C:1
15839	C:1
15840	C:1
15841	C:1
15842	C:1
15843	C:1
15844	F:1
15845	C:1
15846	C:1
15847	C:1
15848	C:1
15849	C:1
15850	C:1
15851	C:1
15852	C:1
15853	C:1
15854	C:1
15855	H:1
15856	C:1
15857	C:1
15858	C:1
15859	C:1
15860	C:1
15861	H:1
15862	C:1
15863	H:1
15864	C:1
15865	C:1
15866	C:1
15867	C:1
15868	C:1
15869	C:1
15870	C:1
15871	C:1
15872	C:1
15873	C:1
15874	H:1
15875	C:1
15876	C:1
15877	H:1
15878	C:1
15879	C:1
15880	C:1
15881	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15882	C:1
15883	C:1
15884	C:1
15885	H:1
15886	C:1
15887	C:1
15888	H:1
15889	H:1
15890	H:1
15891	C:1
15892	C:1
15893	C:1
15894	H:1
15895	C:1
15896	C:1
15897	C:1
15898	C:1
15899	C:1
15900	C:1
15901	C:1
15902	H:1
15903	C:1
15904	H:1
15905	C:1
15906	C:1
15907	C:1
15908	C:1
15909	C:1
15910	C:1
15911	C:1
15912	C:1
15913	C:1
15914	C:1
15915	H:1
15916	C:1
15917	H:1
15918	C:1
15919	H:1
15920	C:1
15921	H:1
15922	C:1
15923	C:1
15924	C:1
15925	C:1
15926	C:1
15927	C:1
15928	C:1

Seq Id No.	Tissue distribution
15929	C:1
15930	H:1
15931	H:1
15932	C:1
15933	C:1
15934	C:1
15935	C:1
15936	C:1
15937	C:1
15938	C:1
15939	C:1
15940	C:1
15941	C:1
15942	C:1
15943	C:1
15944	C:1
15945	C:1
15946	H:1
15947	C:1
15948	C:1
15949	C:1
15950	C:1
15951	C:1
15952	C:1
15953	C:1
15954	C:1
15955	C:1
15956	B:1
15957	C:1
15958	C:1
15959	H:1
15960	H:1
15961	C:1
15962	C:1
15963	C:1
15964	C:1
15965	C:1
15966	C:1
15967	C:1
15968	C:1
15969	C:1
15970	C:1
15971	C:1
15972	C:1
15973	C:1
15974	C:1
15975	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
15976	C:1
15977	K:1
15978	H:1
15979	H:1
15980	C:1
15981	H:1
15982	C:1
15983	C:1
15984	C:1
15985	C:1
15986	C:1
15987	H:1
15988	C:1
15989	H:1
15990	B:1
15991	A:1
15992	H:4
15993	H:1
15994	H:1
15995	H:1
15996	F:1
15997	H:1
15998	H:1
15999	H:1
16000	H:1
16001	H:1
16002	A:2
16003	H:3
16004	K:5
16005	A:1
16006	H:1
16007	A:12
16008	A:1
16009	A:1
16010	A:1
16011	A:1
16012	A:1
16013	A:1
16014	A:1
16015	A:1
16016	A:1
16017	A:1
16018	A:1
16019	A:1
16020	A:1
16021	A:1
16022	A:1
16023	A:1
16024	A:1
16025	H:1
16026	A:1
16027	A:1
16028	A:1
16029	A:1
16030	A:1
16031	A:1
16032	A:1
16033	A:1
16034	A:1
16035	A:1
16036	F:2
16037	A:1
16038	A:1
16039	A:1
16040	A:1
16041	A:1
16042	A:1
16043	A:1
16044	A:1
16045	A:1
16046	A:1
16047	A:2
16048	A:1
16049	A:1
16050	A:1
16051	A:1
16052	A:1
16053	A:1
16054	A:1
16055	A:1
16056	A:1
16057	A:1
16058	A:1
16059	A:1
16060	A:1
16061	A:1
16062	K:2
16063	H:2
16064	F:1 K:6
16065	C:27
16066	K:3
16067	A:1 I:1
16068	B:2
16069	K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16070	K:2
16071	A:5
16072	A:1 F:3 H:10 I:10 K:1
16073	A:4 B:1
16074	B:3
16075	K:2
16076	F:7
16077	F:1
16078	F:1 K:1
16079	B:2
16080	K:1
16081	K:1
16082	K:1
16083	F:8 K:2
16084	H:2
16085	H:3
16086	H:2
16087	F:1 K:2
16088	A:3
16089	D:2
16090	K:1
16091	B:3 C:40
16092	C:1
16093	C:1
16094	K:5
16095	B:2 C:1 D:1
16096	F:1
16097	H:1
16098	F:1 K:1
16099	K:1
16100	K:1
16101	E:1
16102	C:3
16103	F:3
16104	K:2
16105	C:4
16106	A:4
16107	F:1 K:2
16108	B:1
16109	B:1
16110	B:1
16111	B:1
16112	H:4
16113	K:2
16114	K:1
16115	K:1
16116	K:4
16117	F:1 K:6
16118	K:1
16119	H:2
16120	H:1
16121	K:2
16122	H:1
16123	B:2
16124	B:2
16125	H:1
16126	C:1
16127	H:58
16128	H:1
16129	H:1
16130	H:1
16131	H:1
16132	H:1
16133	H:1
16134	H:1
16135	H:1
16136	H:1
16137	H:1
16138	H:1
16139	H:1
16140	H:1
16141	H:1
16142	H:1
16143	H:1
16144	H:1
16145	H:1
16146	C:2
16147	K:1
16148	H:1
16149	I:1
16150	A:1 C:1
16151	B:6 C:100
16152	C:1
16153	F:20 K:102
16154	F:1 K:2
16155	K:1
16156	B:1
16157	K:2
16158	D:2
16159	F:3 H:1
16160	A:2
16161	A:1
16162	A:1
16163	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16164	A:1
16165	A:1
16166	A:1
16167	A:1
16168	A:8
16169	B:2
16170	F:3 K:1
16171	A:1 B:2
16172	B:6
16173	F:2
16174	H:1
16175	H:1
16176	F:1 K:1
16177	H:1
16178	F:2
16179	A:2 I:1
16180	A:1
16181	K:2
16182	F:3 K:23
16183	K:2
16184	K:2
16185	A:1 C:43
16186	C:2
16187	B:4
16188	D:1
16189	B:1
16190	D:1
16191	F:18 K:4
16192	F:18 K:4
16193	F:2
16194	B:1
16195	K:1
16196	A:3
16197	C:1
16198	C:1
16199	C:1
16200	C:1
16201	C:1
16202	C:1
16203	C:1
16204	C:1
16205	C:1
16206	C:1
16207	A:1 B:2
16208	H:1
16209	B:1
16210	B:3
16211	B:2
16212	D:1 K:1
16213	F:3
16214	B:2
16215	K:1
16216	C:1
16217	K:1
16218	D:1
16219	B:1
16220	K:2
16221	B:4
16222	H:3
16223	I:3
16224	K:4
16225	D:1
16226	K:1
16227	K:1
16228	K:3
16229	K:4
16230	F:8 K:3
16231	H:19
16232	H:3
16233	K:1
16234	F:1
16235	A:3
16236	C:4 H:2
16237	A:98 F:2 K:2
16238	A:488
16239	A:1
16240	A:1
16241	F:13 K:5
16242	H:14
16243	F:9 K:16
16244	A:2
16245	K:2
16246	F:2 K:2
16247	D:2
16248	A:11 B:10 C:16 D:2 E:1 F:241 H:6 I:13 K:62
16249	F:1
16250	K:1
16251	K:1
16252	A:1
16253	F:1
16254	K:1
16255	K:1
16256	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16257	K:1
16258	H:1
16259	F:1
16260	K:1
16261	F:1
16262	K:1
16263	B:2
16264	B:6
16265	B:2
16266	H:2
16267	F:1
16268	A:1
16269	A:2
16270	C:2
16271	C:3
16272	A:2
16273	K:1
16274	F:1 K:1
16275	A:2
16276	C:5
16277	H:23
16278	F:2
16279	B:1
16280	D:1
16281	D:1
16282	F:2
16283	D:1
16284	D:1
16285	B:2
16286	B:1
16287	B:2
16288	K:1
16289	K:1
16290	K:1
16291	F:1
16292	F:1
16293	F:1
16294	K:1
16295	F:1
16296	H:2
16297	F:1 K:1
16298	F:1
16299	F:4
16300	K:2
16301	F:1 H:2
16302	F:3 K:41
16303	K:2
16304	B:1
16305	I:1
16306	A:1
16307	D:1 H:1
16308	H:3
16309	F:2 K:1
16310	B:2
16311	B:5
16312	C:28
16313	C:1
16314	A:1
16315	H:5
16316	H:1
16317	H:1
16318	H:1
16319	H:1
16320	H:1
16321	H:1
16322	H:1
16323	H:1
16324	H:1
16325	K:2
16326	A:1
16327	C:7 K:2
16328	C:2 K:3
16329	K:2
16330	H:1
16331	F:1
16332	A:2 B:3 C:35 D:1 H:1 J:3 K:3
16333	K:2
16334	B:2
16335	B:2
16336	F:5
16337	F:4 K:1
16338	F:5
16339	F:1
16340	F:1
16341	F:1
16342	F:1
16343	F:1
16344	F:1
16345	F:1
16346	K:3
16347	K:1
16348	F:2
16349	K:1
16350	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16351	B:7 C:28 D:1 H:1 K:1
16352	B:11 C:58 D:1 H:1 K:1
16353	B:1
16354	A:1 B:4 C:4 H:2
16355	B:10 C:6 H:2
16356	K:1
16357	A:1
16358	H:2
16359	H:5
16360	K:3
16361	B:1 C:1
16362	C:1
16363	A:2
16364	B:2
16365	A:2
16366	F:1
16367	K:2
16368	B:10 C:7
16369	D:1 H:1
16370	F:2 K:1
16371	H:2
16372	C:10 D:2 F:1 H:1 K:1
16373	C:1
16374	C:5
16375	H:1
16376	F:7
16377	K:1
16378	H:4
16379	H:2
16380	K:2
16381	C:1
16382	F:10 K:5
16383	A:3
16384	F:2
16385	K:4
16386	A:4
16387	H:2
16388	K:2
16389	C:8
16390	A:2
16391	K:1
16392	C:1
16393	A:16 B:13 C:44 D:2 F:1
16394	B:1
16395	A:5
16396	A:15 B:14 C:17 D:9 H:6 I:1 J:4 K:2
16397	A:1 D:1
16398	C:1
16399	A:2 C:1
16400	A:1
16401	A:1 C:1
16402	A:8
16403	K:2
16404	A:2
16405	C:1
16406	C:1
16407	B:1
16408	B:1
16409	B:1
16410	D:1 H:2 J:6
16411	B:2 D:1 H:1 J:346
16412	J:17
16413	H:1
16414	C:1
16415	J:1
16416	J:1
16417	J:1
16418	J:1
16419	C:1
16420	J:1
16421	J:1
16422	A:2
16423	H:3
16424	C:1
16425	F:1 K:1
16426	F:1
16427	F:1 K:1
16428	F:1
16429	F:1
16430	F:1
16431	F:1
16432	F:1
16433	K:1
16434	F:1
16435	F:1
16436	K:6
16437	K:1
16438	K:1
16439	C:3
16440	H:1
16441	A:1
16442	H:1
16443	F:1 K:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16444	K:2
16445	B:4
16446	A:3
16447	H:2
16448	A:1 C:3 I:1
16449	B:6 D:1 H:1
16450	A:1
16451	J:2
16452	B:2 C:6 J:1
16453	C:8 J:1
16454	D:1
16455	C:1
16456	A:1
16457	C:1
16458	K:1
16459	F:1 K:1
16460	F:2 K:3
16461	A:6 K:1
16462	B:2 C:2
16463	A:1 B:1
16464	K:1
16465	F:1
16466	A:2
16467	A:2
16468	I:1
16469	I:1
16470	B:1 H:1
16471	A:11 B:3 C:7 D:1 I:2
16472	B:1
16473	C:3
16474	B:1 F:1
16475	A:1
16476	B:1
16477	B:5 C:96
16478	C:1
16479	C:1
16480	C:1
16481	C:1
16482	C:1
16483	C:1
16484	K:2
16485	C:1
16486	C:1
16487	C:1
16488	A:3 B:1 C:7 F:6 H:2 K:8
16489	F:1
16490	A:1
16491	F:1
16492	F:1
16493	B:1
16494	F:1
16495	F:1
16496	F:1
16497	F:3 K:29
16498	K:4
16499	K:1
16500	K:1
16501	K:1
16502	F:2
16503	B:6 C:1
16504	B:1
16505	H:1
16506	B:1 H:1
16507	K:3
16508	A:4
16509	H:1
16510	D:1
16511	A:8
16512	C:1
16513	A:2
16514	K:1
16515	K:1
16516	K:1
16517	A:3
16518	I:3
16519	F:1 K:2
16520	K:1
16521	C:3
16522	C:1
16523	F:1 K:1
16524	H:1
16525	K:4
16526	F:1 K:4
16527	K:1
16528	A:1
16529	K:7
16530	A:1
16531	A:1
16532	K:1
16533	K:1
16534	F:2 K:1
16535	F:1
16536	F:1
16537	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16538	F:1
16539	F:1
16540	F:1
16541	F:1
16542	F:1
16543	F:1
16544	F:1
16545	F:1
16546	F:1
16547	F:1
16548	K:1
16549	C:1
16550	K:1
16551	K:1
16552	K:1
16553	K:1
16554	A:3
16555	K:1
16556	K:1
16557	K:1
16558	K:1
16559	K:1
16560	H:2
16561	A:1 B:2
16562	K:1
16563	B:1 K:1
16564	B:2
16565	A:2 B:2
16566	H:2
16567	A:3
16568	D:2
16569	H:1
16570	C:1
16571	C:4
16572	K:2
16573	C:2
16574	A:4 B:3 I:1
16575	A:1
16576	B:4
16577	B:4
16578	B:1
16579	B:2
16580	K:2
16581	F:1
16582	C:5
16583	A:4
16584	H:1
16585	C:3
16586	H:2 K:1
16587	K:1
16588	K:1
16589	F:4 K:1
16590	H:2
16591	F:3 K:1
16592	A:1 B:1
16593	B:2
16594	H:1
16595	B:3
16596	H:2
16597	F:4 K:23
16598	F:1 K:5
16599	A:5 B:2
16600	H:2
16601	H:2
16602	H:3
16603	F:11 K:2
16604	F:1 K:1
16605	B:4 H:1
16606	K:1
16607	C:1
16608	D:1
16609	I:1
16610	K:1
16611	K:1
16612	H:2
16613	F:2
16614	B:1 K:1
16615	B:1 F:3 K:1
16616	H:2
16617	H:2
16618	F:9 K:3
16619	A:1
16620	D:1
16621	K:2
16622	C:5
16623	C:2
16624	A:2
16625	F:1 K:3
16626	F:1 K:1
16627	A:10
16628	H:5
16629	H:1
16630	K:1
16631	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16632	B:1
16633	F:2 K:1
16634	A:7
16635	H:2
16636	B:1
16637	F:3
16638	A:2
16639	B:2
16640	A:2
16641	F:1 K:1
16642	F:2
16643	B:1 C:9
16644	F:4 K:1
16645	F:2
16646	K:1
16647	H:1
16648	C:2
16649	F:1
16650	F:1
16651	F:3
16652	K:3
16653	F:3 K:7
16654	A:5
16655	B:2
16656	K:2
16657	A:5 B:19 C:13 D:6 F:1 H:1 J:2
16658	C:1
16659	F:1 K:2
16660	F:4
16661	C:4
16662	I:2
16663	H:1 I:2
16664	I:1
16665	A:1 I:2
16666	A:1
16667	C:6
16668	B:2
16669	B:1
16670	F:1 K:5
16671	F:1 K:6
16672	K:1
16673	K:1
16674	H:11
16675	B:1 K:1
16676	F:1 K:1
16677	B:1
16678	B:1

Seq Id No.	Tissue distribution
16679	C:7
16680	B:1
16681	K:7
16682	F:1 K:3
16683	F:11 K:2
16684	F:27 K:2
16685	F:1
16686	F:1
16687	F:1
16688	F:1
16689	F:1
16690	F:1
16691	F:1
16692	K:1
16693	K:1
16694	K:1
16695	F:1
16696	F:1
16697	I:2
16698	F:1 K:3
16699	K:2
16700	F:1 K:6
16701	A:2
16702	F:11
16703	K:2
16704	A:4
16705	H:1
16706	H:1
16707	K:1
16708	C:1
16709	A:2 F:8 K:5
16710	H:1
16711	H:1
16712	K:1
16713	C:1
16714	H:1
16715	A:4
16716	F:2 K:1
16717	B:2
16718	A:8
16719	H:1
16720	D:1
16721	F:1
16722	F:3 K:11
16723	K:2
16724	K:1
16725	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16726	A:6
16727	F:1
16728	C:4
16729	D:1
16730	A:1
16731	A:1
16732	A:1
16733	F:1
16734	A:1
16735	D:1
16736	K:1
16737	K:2
16738	F:29 K:6
16739	K:2
16740	K:1
16741	C:1
16742	K:4
16743	F:1 K:1
16744	K:2
16745	K:2
16746	F:10 K:2
16747	F:1 K:1
16748	F:1 K:2
16749	A:5
16750	F:1 K:7
16751	B:2 K:2
16752	B:2 C:1 K:1
16753	F:1 K:1
16754	F:1 K:3
16755	A:1
16756	B:3
16757	B:2
16758	H:15
16759	H:1
16760	F:1
16761	K:3
16762	B:1
16763	B:1
16764	H:8
16765	F:3 K:3
16766	A:1 B:2 D:1
16767	F:1
16768	K:1
16769	A:2
16770	B:4
16771	H:2
16772	F:15 K:4
16773	H:3
16774	B:3
16775	B:4 C:3 H:2
16776	B:9 C:22 D:1 F:1 H:8
16777	B:1 C:2
16778	C:1
16779	C:1
16780	B:1
16781	C:1
16782	I:1
16783	C:1
16784	C:1
16785	C:1
16786	C:1
16787	A:3 C:2
16788	C:1
16789	H:1
16790	A:17 B:36 C:54 D:27 E:2 F:10 H:114 I:1 J:4 K:14
16791	B:1
16792	K:1
16793	B:1
16794	A:2
16795	H:2
16796	F:1 K:3
16797	K:1
16798	F:2
16799	F:1
16800	F:1
16801	F:1
16802	F:1
16803	F:1
16804	F:1
16805	F:1
16806	F:1
16807	F:1
16808	K:3
16809	A:4
16810	H:4
16811	K:2
16812	K:1
16813	K:1
16814	K:1
16815	B:4 E:1
16816	B:1
16817	A:5
16818	B:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16819	H:1
16820	C:4
16821	B:2
16822	B:5
16823	H:2
16824	A:2 B:1 F:1 H:2 K:2
16825	F:1
16826	F:1 H:1
16827	H:1
16828	K:2
16829	A:1
16830	B:2
16831	K:1
16832	K:1
16833	K:1
16834	K:1
16835	K:1
16836	H:1
16837	F:1
16838	B:3
16839	F:1 K:8
16840	K:3
16841	B:3
16842	K:1
16843	C:1
16844	A:2
16845	F:2 K:3
16846	H:3
16847	A:4
16848	K:2
16849	H:5
16850	F:1 K:1
16851	A:1 I:1
16852	K:1
16853	B:4 C:3 H:2
16854	A:1
16855	B:2
16856	A:2
16857	B:2
16858	K:1
16859	C:6
16860	A:3
16861	A:2
16862	H:1
16863	K:2
16864	F:1 I:1
16865	C:38

Seq Id No.	Tissue distribution
16866	I:3
16867	F:31 K:9
16868	F:2
16869	F:1
16870	F:1
16871	K:1
16872	F:1
16873	K:1
16874	K:2
16875	K:2
16876	K:2
16877	F:2
16878	F:11 K:51
16879	K:1
16880	A:1 C:5 H:2 K:1
16881	H:1 K:1
16882	H:4
16883	K:2
16884	C:4 J:2
16885	F:1 K:2
16886	A:3
16887	A:21
16888	D:1 H:1
16889	K:2
16890	A:1 B:1 D:1 H:2
16891	F:2 K:2
16892	H:2
16893	A:1
16894	A:2
16895	H:2
16896	K:4
16897	C:1
16898	K:5
16899	A:6
16900	A:2
16901	C:1 H:4
16902	K:3
16903	F:1
16904	C:4
16905	J:49
16906	I:2
16907	C:1
16908	B:3
16909	B:3
16910	F:4
16911	H:2
16912	K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
16913	K:2
16914	H:2
16915	F:4
16916	A:6
16917	F:9 K:2
16918	B:1
16919	H:2
16920	A:2
16921	K:1
16922	A:1
16923	C:1
16924	F:3
16925	B:1 C:10
16926	C:1
16927	C:1
16928	C:1
16929	B:1
16930	A:1
16931	B:1
16932	C:1
16933	F:1
16934	C:1
16935	C:1
16936	C:1
16937	B:1
16938	C:1
16939	C:1
16940	C:1
16941	C:1
16942	C:1
16943	C:1
16944	C:1
16945	C:1
16946	C:1
16947	K:3
16948	A:1 C:1
16949	C:1
16950	C:1
16951	C:1
16952	C:1
16953	J:1
16954	C:1
16955	C:1
16956	C:1
16957	C:1
16958	C:1
16959	B:1 C:1 H:19 J:3

Seq Id No.	Tissue distribution
16960	C:1
16961	C:1
16962	C:1
16963	C:1
16964	C:1
16965	D:1
16966	C:1
16967	C:1
16968	C:1
16969	C:1
16970	C:1
16971	C:1
16972	C:1
16973	C:1
16974	C:1
16975	C:1
16976	C:1
16977	C:1
16978	C:1
16979	C:1
16980	C:1
16981	C:1
16982	C:1
16983	D:1
16984	C:1
16985	B:1
16986	C:1
16987	C:1
16988	C:1
16989	H:1
16990	C:1
16991	C:1
16992	J:1
16993	C:1
16994	C:1
16995	C:1
16996	C:1
16997	C:1
16998	C:1
16999	C:1
17000	H:4
17001	C:1
17002	C:1
17003	C:1
17004	B:1
17005	C:1
17006	C:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17007	C:1
17008	C:1
17009	C:1
17010	C:1
17011	H:4
17012	B:1
17013	H:1
17014	C:1
17015	C:1
17016	C:1
17017	C:1
17018	B:1
17019	C:1
17020	B:1
17021	C:1
17022	C:1
17023	C:1
17024	C:1
17025	B:1
17026	C:1
17027	C:1
17028	C:1
17029	C:1
17030	C:1
17031	C:1
17032	K:2
17033	C:1
17034	C:1
17035	C:1
17036	C:1
17037	C:1
17038	C:1
17039	B:1
17040	C:1
17041	C:1
17042	C:1
17043	A:2
17044	C:1
17045	C:1
17046	C:1
17047	C:1
17048	C:1
17049	H:1
17050	B:1
17051	J:1
17052	C:1
17053	C:1
17054	K:1
17055	B:1
17056	J:1
17057	B:1
17058	C:1
17059	C:1
17060	C:1
17061	C:1
17062	C:1
17063	C:1
17064	C:1
17065	B:4 C:1
17066	C:1
17067	D:1
17068	C:1
17069	C:1
17070	C:1
17071	D:1
17072	C:1
17073	C:1
17074	C:1
17075	C:1
17076	C:3
17077	C:1
17078	C:1
17079	C:1
17080	C:1
17081	C:1
17082	C:1
17083	C:1
17084	K:2
17085	B:4
17086	F:4
17087	A:2
17088	A:1
17089	A:2
17090	K:1
17091	A:3 C:1 F:1 I:1
17092	K:2
17093	K:2
17094	B:3
17095	F:1
17096	F:1
17097	F:1
17098	F:5 K:1
17099	C:2
17100	B:1 D:1 H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17101	H:11
17102	A:7
17103	H:1
17104	K:1
17105	K:2
17106	H:2
17107	K:2
17108	F:2
17109	C:1
17110	F:3 K:1
17111	H:1
17112	A:2
17113	K:2
17114	A:1
17115	A:1
17116	K:1
17117	H:9
17118	C:9
17119	B:1 H:1
17120	C:1
17121	C:2
17122	F:1 K:1
17123	C:13
17124	A:1
17125	F:1 K:4
17126	K:1
17127	K:3
17128	K:2
17129	A:7
17130	F:3 K:1
17131	I:2 K:1
17132	A:2
17133	C:11
17134	F:2 K:1
17135	A:2
17136	F:1
17137	K:3
17138	K:2
17139	C:6 J:1
17140	K:1
17141	K:3
17142	K:1
17143	C:67
17144	C:1
17145	C:1
17146	C:1
17147	C:1

Seq Id No.	Tissue distribution
17148	C:1
17149	C:1
17150	K:4
17151	C:1
17152	A:15
17153	B:2
17154	C:4 F:1
17155	K:2
17156	C:3
17157	F:2 K:1
17158	B:2
17159	K:1
17160	K:1
17161	H:2
17162	F:2 K:3
17163	K:3
17164	I:4
17165	C:1
17166	F:6 K:17
17167	F:7 K:30
17168	K:1
17169	K:1
17170	F:6 K:13
17171	F:1 K:8
17172	K:1
17173	K:1
17174	F:2
17175	F:2
17176	C:8 H:1
17177	K:2
17178	F:42 K:13
17179	F:1 K:1
17180	K:2
17181	B:2
17182	K:1
17183	K:1
17184	K:1
17185	K:1
17186	K:1
17187	K:1
17188	K:1
17189	K:2
17190	H:2
17191	K:2
17192	K:3
17193	F:2 K:7
17194	F:1 K:8

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17195	C:8
17196	B:2
17197	F:7 K:17
17198	F:32 K:6
17199	C:1
17200	B:1
17201	F:16 K:3
17202	H:1
17203	A:2
17204	A:3
17205	C:5
17206	C:15
17207	K:2
17208	F:1 K:1
17209	F:1
17210	I:1
17211	B:3
17212	F:1 K:1
17213	F:1
17214	I:1
17215	H:2
17216	K:2
17217	A:1 D:1
17218	C:3
17219	C:8
17220	C:8 J:1
17221	A:1 B:4 C:1
17222	A:1 B:3 C:1 D:1
17223	H:1
17224	F:19 K:9
17225	F:1 K:1
17226	F:1 K:2
17227	H:19
17228	C:2
17229	B:1
17230	K:2
17231	C:18
17232	D:1
17233	D:1
17234	C:1
17235	C:1
17236	H:2
17237	F:3 K:2
17238	A:1 H:1 I:2 K:1
17239	H:2
17240	F:2
17241	K:2
17242	I:2
17243	K:2
17244	B:2
17245	A:1 D:1 F:1 H:1 I:1
17246	K:1
17247	B:2
17248	B:1 H:1
17249	K:3
17250	H:2
17251	F:3 K:1
17252	C:1
17253	C:4
17254	H:1 K:1
17255	B:3
17256	A:1 H:1
17257	F:1 H:2 K:1
17258	C:1 F:1 H:2
17259	B:2
17260	F:2
17261	A:1
17262	F:1 K:1
17263	F:1 K:3
17264	H:5
17265	A:2
17266	C:2 J:29
17267	K:9
17268	C:3 F:6 K:49
17269	C:3 F:12 K:112
17270	H:3 K:3
17271	K:1
17272	H:1
17273	B:1
17274	K:2
17275	B:2
17276	I:1
17277	H:1
17278	F:1 K:2
17279	F:2
17280	A:2 C:5
17281	B:3
17282	K:2
17283	H:1 K:1
17284	K:4
17285	H:1
17286	C:1
17287	B:1 C:1
17288	B:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17289	B:3
17290	F:1 K:1
17291	K:1
17292	K:1
17293	A:3
17294	C:1
17295	B:1
17296	B:1
17297	B:1
17298	A:3
17299	H:1
17300	A:11 B:5 C:1 D:1 H:2 I:1
17301	A:4 B:3
17302	K:2
17303	K:1
17304	B:2
17305	B:2
17306	K:2
17307	K:2
17308	A:13
17309	K:2
17310	H:1
17311	H:1
17312	H:1
17313	H:1
17314	F:3
17315	F:1 H:1
17316	F:1 K:11
17317	F:4 K:2
17318	H:21
17319	B:4
17320	F:2
17321	H:2
17322	H:2
17323	H:1
17324	B:2
17325	B:4
17326	K:2
17327	B:2
17328	K:3
17329	B:3
17330	A:1 H:38 K:1
17331	A:2
17332	F:2 K:1
17333	B:3 C:1
17334	K:2
17335	K:1
17336	K:1
17337	H:3
17338	D:2
17339	K:2
17340	F:10 K:4
17341	K:2
17342	A:1 B:1
17343	F:12 K:5
17344	F:1
17345	B:2
17346	H:1
17347	C:2 D:1
17348	A:3 C:1
17349	A:5 B:1 K:1
17350	C:36
17351	C:99
17352	B:4
17353	K:2
17354	F:6
17355	H:2
17356	C:1 F:8
17357	F:12 K:3
17358	B:2
17359	F:1 K:4
17360	H:3
17361	K:2
17362	K:1
17363	A:3
17364	F:2 K:2
17365	F:1 K:2
17366	C:1
17367	A:3
17368	A:1 B:2
17369	A:1 B:3 D:1
17370	A:5
17371	H:1
17372	A:1
17373	F:2
17374	K:2
17375	B:6
17376	F:1 K:2
17377	K:2
17378	F:1
17379	K:1
17380	B:1
17381	B:1 C:10
17382	D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17383	C:38
17384	C:1
17385	H:1
17386	K:2
17387	F:1
17388	H:6
17389	C:6
17390	B:2
17391	A:3 B:7 C:59 D:1 F:3 H:5 J:6 K:7
17392	B:3 C:1
17393	A:1
17394	H:2
17395	H:1
17396	H:3
17397	B:2
17398	B:3
17399	C:21
17400	F:4
17401	F:4 K:1
17402	A:3 H:4
17403	F:1 K:2
17404	B:5
17405	H:3
17406	H:1
17407	A:6
17408	F:3 K:1
17409	B:2
17410	B:1 I:1
17411	H:2 I:1
17412	C:59
17413	C:1
17414	C:1
17415	C:1
17416	C:1
17417	C:1
17418	C:1
17419	C:1
17420	C:1
17421	C:1
17422	C:1
17423	C:1
17424	B:3
17425	K:2
17426	B:2
17427	A:2
17428	C:3
17429	A:4
17430	B:3
17431	B:3
17432	H:3
17433	A:3
17434	H:3
17435	I:2
17436	A:1
17437	A:2 B:1
17438	F:1 K:1
17439	C:1
17440	B:3
17441	A:1 C:1
17442	B:1 C:1 H:4
17443	H:2
17444	I:1
17445	B:5
17446	H:1
17447	H:1
17448	H:1
17449	H:1
17450	H:1
17451	H:1
17452	H:1
17453	H:1
17454	H:1
17455	H:1
17456	K:2
17457	F:1
17458	F:5 K:2
17459	A:1 C:1 F:7 K:1
17460	A:1 C:1 F:5 K:2
17461	K:2
17462	H:4
17463	K:5
17464	A:15
17465	A:1
17466	A:1
17467	F:1
17468	C:3
17469	A:1 C:1
17470	D:1
17471	K:2
17472	K:2
17473	B:4
17474	F:1 K:1
17475	K:1
17476	B:3

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17477	F:23 K:4
17478	K:1
17479	K:4
17480	F:1
17481	B:4 D:1 H:1
17482	B:1 H:1 K:1
17483	B:1
17484	H:7
17485	K:1
17486	F:1
17487	B:2
17488	F:7 K:31
17489	C:3
17490	D:1
17491	F:1
17492	H:1 K:1
17493	H:1
17494	K:1
17495	K:1
17496	A:7
17497	K:1
17498	H:2
17499	A:1
17500	F:1 K:1
17501	K:1
17502	F:1
17503	F:1
17504	A:2
17505	D:2
17506	F:11 K:2
17507	F:1 K:7
17508	H:4
17509	K:2
17510	K:1
17511	F:2 K:1
17512	F:5 K:1
17513	K:3
17514	F:2
17515	B:3 C:1
17516	C:1
17517	H:3
17518	H:2
17519	K:2
17520	H:1
17521	F:10 K:11
17522	F:11 K:10
17523	A:2
17524	A:1 D:1
17525	K:2
17526	F:1 K:2
17527	F:1
17528	F:2
17529	K:3
17530	B:7 C:91
17531	A:2
17532	B:3
17533	H:17
17534	K:2
17535	I:2
17536	A:2
17537	A:3 B:1 C:1
17538	A:4
17539	A:3
17540	B:2
17541	F:13 K:77
17542	F:2
17543	F:2 K:1
17544	H:3
17545	A:1 H:1
17546	F:10 K:1
17547	K:1
17548	K:1
17549	C:2
17550	F:2 K:1
17551	H:2
17552	A:1 B:1
17553	H:3
17554	K:1
17555	H:2
17556	D:1
17557	A:1
17558	H:1
17559	H:1
17560	K:11
17561	A:5
17562	F:1 K:2
17563	D:3
17564	F:2 K:1
17565	A:44
17566	H:1
17567	F:1 K:1
17568	K:2
17569	A:2 B:1
17570	F:2 K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17571	A:3 B:6 C:2 D:2
17572	B:79 C:62 D:2 H:25 I:2 J:4 K:2
17573	H:1
17574	H:1 K:6
17575	B:4
17576	K:3
17577	F:2 K:6
17578	C:4
17579	A:1 B:1 C:5
17580	A:7 B:22 C:34 D:3 H:10 J:1 K:1
17581	K:3
17582	H:2
17583	C:1
17584	D:1
17585	B:1
17586	B:2
17587	B:2
17588	F:3
17589	K:1
17590	H:1
17591	H:3
17592	A:5
17593	C:1 D:1
17594	H:1
17595	A:4
17596	A:3 B:1 K:2
17597	F:1 K:1
17598	H:1
17599	B:2
17600	B:4
17601	H:2
17602	F:5 K:1
17603	A:8
17604	K:3
17605	C:4
17606	F:1 K:1
17607	F:1
17608	A:1
17609	A:1
17610	A:1
17611	C:1
17612	C:1
17613	B:1 C:1
17614	K:2
17615	H:2
17616	B:5
17617	C:10
17618	H:2
17619	H:7
17620	B:2
17621	K:6
17622	E:1
17623	F:1
17624	K:1
17625	K:1
17626	K:1
17627	K:2
17628	B:1 H:2
17629	H:1
17630	K:1
17631	K:1
17632	H:6
17633	C:15
17634	K:2
17635	A:1
17636	F:1 K:1
17637	B:1
17638	F:4 K:25
17639	F:1 K:6
17640	F:2 K:22
17641	B:1 C:1
17642	F:1 K:1
17643	A:7
17644	C:263
17645	C:1
17646	I:4
17647	D:1
17648	A:1
17649	A:14
17650	A:4 B:1
17651	C:10 D:1 H:1 I:2 J:5
17652	F:3 K:42
17653	K:2
17654	F:1
17655	K:1
17656	A:11
17657	C:8 J:1
17658	C:6
17659	H:2
17660	F:3
17661	A:1 K:1
17662	A:2
17663	K:1
17664	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17665	F:3
17666	F:1 K:1
17667	K:2
17668	C:2
17669	C:3
17670	C:1
17671	A:3
17672	H:1
17673	F:2 K:12
17674	F:2 K:10
17675	F:1 K:1
17676	F:2
17677	B:2
17678	B:6
17679	F:7 K:2
17680	F:1 K:2
17681	K:5
17682	K:5
17683	F:3 K:4
17684	K:1
17685	A:1 B:2
17686	B:2
17687	A:1
17688	I:4
17689	F:2 K:1
17690	H:1
17691	A:1
17692	H:2
17693	B:2
17694	H:2
17695	B:2
17696	B:1
17697	H:3
17698	H:2
17699	K:1
17700	B:3
17701	K:1
17702	C:2 D:2
17703	H:3
17704	B:2
17705	F:1 K:3
17706	F:27 K:4
17707	A:5
17708	H:1
17709	H:1
17710	C:49
17711	C:1 D:1

Seq Id No.	Tissue distribution
17712	F:20 K:5
17713	B:1
17714	B:2
17715	A:1 I:4 K:2
17716	A:1 F:1 I:4 K:1
17717	A:1 B:21 C:45 D:3 E:1 F:4 H:4 I:4 J:7 K:16
17718	H:1
17719	A:1 B:1 C:1 K:1
17720	C:8
17721	K:2
17722	H:18
17723	B:1 H:1
17724	B:3
17725	K:3
17726	F:7
17727	K:1
17728	F:1 K:11
17729	D:1
17730	K:1
17731	H:2
17732	D:1
17733	C:1 F:1 K:1
17734	K:2
17735	F:1 K:3
17736	F:3 K:1
17737	J:2
17738	I:4
17739	K:2
17740	K:2
17741	F:2 K:1
17742	F:8 K:2
17743	A:8
17744	K:2
17745	A:2
17746	B:2
17747	F:17 K:4
17748	C:34
17749	C:9 J:1
17750	H:2
17751	K:5
17752	D:3
17753	K:1
17754	A:1
17755	A:1
17756	F:1
17757	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17758	F:3 K:8
17759	A:2
17760	F:1 K:1
17761	K:2
17762	K:1
17763	K:1
17764	A:6
17765	A:1
17766	F:1
17767	D:1
17768	C:5 D:1
17769	K:2
17770	F:2 K:2
17771	B:2
17772	I:2
17773	B:3
17774	C:23
17775	H:5
17776	C:11
17777	I:3
17778	B:3
17779	A:2
17780	A:2 H:1
17781	K:2
17782	H:2
17783	F:3
17784	F:2
17785	K:2
17786	H:4
17787	B:2
17788	A:1
17789	K:4
17790	H:2
17791	B:1 C:1 H:1
17792	I:1
17793	C:4
17794	A:2
17795	A:1 B:1 D:1
17796	C:62
17797	F:2
17798	C:1
17799	F:9 K:5
17800	K:1
17801	H:4
17802	F:2
17803	F:18
17804	K:2
17805	A:2
17806	K:2
17807	C:4
17808	H:2
17809	K:2
17810	C:1 H:1
17811	A:11
17812	H:1
17813	I:2
17814	C:1
17815	F:6 K:1
17816	F:1
17817	B:1 C:9
17818	H:1
17819	K:1
17820	A:11 C:17
17821	F:1 K:1
17822	B:1
17823	B:1
17824	K:1
17825	A:3
17826	K:1
17827	I:3
17828	A:2 B:1 H:2
17829	B:1 H:2
17830	H:2
17831	A:3
17832	A:2
17833	A:1 D:2
17834	F:3 K:2
17835	B:4
17836	F:1 K:3
17837	B:7
17838	F:3 K:1
17839	C:2
17840	F:1 K:1
17841	C:2
17842	B:2
17843	F:4 K:1
17844	F:2
17845	A:12
17846	C:1 H:1
17847	C:13
17848	K:2
17849	H:2
17850	C:45
17851	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17852	A:1 H:1
17853	F:1 K:2
17854	K:1
17855	K:4
17856	K:2
17857	F:2 K:3
17858	A:1
17859	K:4
17860	A:1
17861	A:1
17862	K:2
17863	B:1
17864	A:1
17865	H:2
17866	A:1
17867	A:1
17868	D:1
17869	B:3
17870	C:4
17871	I:1
17872	I:1
17873	F:2 K:4
17874	F:7
17875	K:1
17876	F:1 K:1
17877	B:3
17878	K:2
17879	C:17
17880	C:1
17881	F:32 K:110
17882	F:2 K:8
17883	F:29 K:110
17884	K:1
17885	K:1
17886	K:1
17887	H:9
17888	F:3 K:1
17889	F:2
17890	A:2
17891	H:5
17892	A:3 B:2 H:1 K:1
17893	F:1 K:1
17894	K:4
17895	H:1
17896	A:15
17897	C:5 H:1
17898	B:1 H:1 K:1

Seq Id No.	Tissue distribution
17899	C:4
17900	H:3
17901	F:1 K:1
17902	K:2
17903	F:3 K:1
17904	K:2
17905	C:7 H:1
17906	C:1
17907	F:1
17908	C:1
17909	K:1
17910	C:1
17911	A:4
17912	K:4
17913	C:171
17914	C:1
17915	D:1 H:1
17916	K:4
17917	K:2
17918	K:1
17919	K:7
17920	F:1
17921	F:1
17922	F:1
17923	F:1
17924	F:1
17925	F:1
17926	K:1
17927	F:1
17928	F:1
17929	F:1
17930	F:1
17931	F:1
17932	F:1
17933	F:1
17934	F:1
17935	F:1
17936	F:1
17937	F:1
17938	F:1
17939	K:1
17940	F:1
17941	F:1
17942	F:1
17943	F:1
17944	F:1
17945	K:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
17946	F:1
17947	K:1
17948	F:1
17949	F:1
17950	F:4 K:3
17951	F:1 K:1
17952	A:8
17953	K:2
17954	K:2
17955	K:2
17956	H:6
17957	H:3
17958	A:3
17959	K:2
17960	F:6 K:1
17961	A:2
17962	K:2
17963	K:1
17964	K:1
17965	K:1
17966	K:1
17967	F:6 K:2
17968	F:2
17969	F:3
17970	A:213
17971	A:4
17972	A:2 B:2
17973	A:15 C:2 F:1
17974	A:5 C:3
17975	B:2
17976	A:6
17977	A:5 C:3
17978	H:7
17979	F:5 K:2
17980	F:4 K:5
17981	F:1 K:6
17982	K:3
17983	F:16 K:5
17984	B:2 C:1
17985	K:3
17986	C:3
17987	K:2
17988	A:13
17989	C:26
17990	A:2 B:1 I:1
17991	A:1 B:2
17992	C:3
17993	K:2
17994	C:3
17995	K:3
17996	B:2
17997	B:6
17998	K:1
17999	H:2
18000	A:4 F:1
18001	A:1
18002	B:1
18003	H:1
18004	F:1
18005	K:1
18006	H:3
18007	B:1
18008	K:2
18009	F:1 K:1
18010	A:16
18011	C:2
18012	B:2
18013	B:2
18014	C:2 I:2
18015	F:5
18016	K:4
18017	A:2
18018	B:1
18019	B:1
18020	H:1
18021	H:1
18022	H:1
18023	F:2
18024	A:1 I:2
18025	B:3 C:1
18026	F:1 K:2
18027	F:1
18028	K:1
18029	H:3
18030	H:1
18031	F:1 H:5
18032	C:2 H:1
18033	F:1 K:1
18034	K:2
18035	B:3
18036	F:4 K:1
18037	F:1 K:1
18038	B:1 C:1
18039	H:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18040	A:2
18041	A:7
18042	K:1
18043	K:1
18044	A:2
18045	K:3
18046	B:2
18047	H:1
18048	H:2
18049	B:4
18050	A:4 B:2 C:4 H:1
18051	B:1
18052	C:6
18053	A:2
18054	H:1
18055	B:1 D:1
18056	F:1 K:1
18057	B:2
18058	H:1
18059	H:3 I:3
18060	A:9
18061	A:1
18062	H:1
18063	H:1
18064	D:2
18065	H:1
18066	H:1
18067	A:4
18068	H:1
18069	D:1
18070	B:2
18071	H:1
18072	B:1
18073	K:7
18074	H:37
18075	H:1
18076	B:1
18077	H:3
18078	K:2
18079	F:14 K:4
18080	H:2
18081	F:2 K:10
18082	A:1 B:1 F:1
18083	A:2
18084	K:1
18085	F:22 K:62
18086	I:1 K:2

Seq Id No.	Tissue distribution
18087	B:1
18088	H:1
18089	A:7
18090	B:3
18091	A:1
18092	K:2
18093	H:3
18094	H:7
18095	F:4
18096	H:6
18097	K:7
18098	K:2
18099	B:2
18100	B:3
18101	A:1
18102	D:2
18103	F:1
18104	F:1
18105	K:1
18106	C:1
18107	K:2
18108	A:1 H:1
18109	K:1
18110	K:1
18111	F:4 K:1
18112	B:2
18113	K:2
18114	F:1
18115	A:3
18116	H:3
18117	H:1
18118	A:1
18119	F:9 K:8
18120	K:2
18121	K:8
18122	A:2
18123	K:3
18124	A:8
18125	B:2
18126	F:14 H:1 K:32
18127	K:5
18128	K:1
18129	F:3
18130	J:73
18131	F:1 K:1
18132	A:2 B:5 C:3 F:9 H:1 K:5
18133	C:4

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18134	F:5 K:1
18135	B:1
18136	F:1 K:1
18137	B:1
18138	K:3
18139	J:10
18140	K:1
18141	J:1
18142	J:1
18143	J:1
18144	J:1
18145	J:1
18146	J:1
18147	J:1
18148	F:1
18149	J:1
18150	J:1
18151	J:1
18152	K:1
18153	J:1
18154	J:1
18155	J:1
18156	J:1
18157	J:1
18158	K:1
18159	J:1
18160	J:1
18161	J:1
18162	J:1
18163	J:1
18164	J:1
18165	J:1
18166	J:1
18167	F:1
18168	J:1
18169	J:1
18170	K:1
18171	J:1
18172	K:1
18173	C:6
18174	A:19 B:20 C:11 D:46 F:22
18175	K:1
18176	H:1
18177	A:1 K:2
18178	C:9
18179	H:1
18180	C:1
18181	F:2
18182	C:22
18183	C:1
18184	K:1
18185	K:1
18186	K:2
18187	F:1
18188	F:1
18189	B:3
18190	F:4 K:1
18191	A:1
18192	H:1
18193	B:2
18194	A:1
18195	B:4
18196	F:5 K:1
18197	F:1
18198	K:1
18199	A:1 B:2 C:3 D:1 F:1 K:3
18200	K:1
18201	K:1
18202	K:1
18203	K:1
18204	K:1
18205	K:1
18206	K:1
18207	K:1
18208	F:1
18209	K:1
18210	A:4
18211	K:1
18212	A:3
18213	K:1
18214	K:1
18215	K:1
18216	K:1
18217	K:1
18218	K:2
18219	B:2
18220	H:1
18221	K:1
18222	H:2
18223	F:1 K:20
18224	K:4
18225	B:2
18226	B:3 H:1 K:1
18227	A:8 B:5 C:20 D:9 F:3 H:10 J:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
	K:6
18228	C:1
18229	K:1
18230	H:2
18231	D:2
18232	A:2
18233	I:1
18234	I:1
18235	F:2
18236	H:1
18237	A:1 D:1
18238	F:2
18239	F:1 K:2
18240	B:3
18241	F:1 K:1
18242	K:2
18243	K:1
18244	K:1
18245	K:2
18246	K:1
18247	H:4
18248	A:3 H:1
18249	A:2
18250	A:1
18251	F:3 K:9
18252	F:2 K:2
18253	C:2
18254	K:2
18255	K:1
18256	D:1
18257	C:1 H:1
18258	C:6
18259	D:1 F:1
18260	I:2
18261	H:11
18262	F:1
18263	K:1
18264	K:2
18265	A:7
18266	K:7
18267	I:1
18268	H:1
18269	A:1
18270	C:2
18271	H:1
18272	B:1
18273	A:2
18274	A:2
18275	F:1 K:2
18276	K:1
18277	B:2
18278	B:3
18279	K:1
18280	C:6
18281	H:3
18282	K:2
18283	B:8 C:1
18284	C:8
18285	A:1
18286	B:1
18287	B:2
18288	D:2
18289	A:1 B:20 C:21 F:3 H:6 K:1
18290	B:1
18291	C:1
18292	F:1
18293	F:1
18294	B:4
18295	H:1
18296	K:2
18297	F:1 K:2
18298	F:1 K:1
18299	F:1
18300	F:2 K:2
18301	F:23 K:6
18302	H:1
18303	K:2
18304	F:1 K:6
18305	C:1 H:2 K:1
18306	A:1
18307	K:2
18308	B:2
18309	K:2
18310	B:2 C:1
18311	K:1
18312	F:1
18313	F:1
18314	F:1
18315	K:3
18316	K:3
18317	H:1
18318	C:2
18319	F:1 I:2
18320	K:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18321	H:2
18322	C:25
18323	A:4
18324	K:2
18325	C:31
18326	K:2
18327	C:7
18328	K:1
18329	K:1
18330	F:1
18331	C:35
18332	F:1
18333	K:1
18334	K:1
18335	F:1 H:1
18336	A:2
18337	K:2
18338	F:3 K:1
18339	K:2
18340	B:2 K:1
18341	K:1
18342	F:5
18343	F:1
18344	F:4 K:1
18345	F:6 K:1
18346	B:1
18347	C:1
18348	D:1
18349	F:1 K:2
18350	H:6
18351	C:5
18352	K:2
18353	D:1 H:2
18354	F:11 K:2
18355	F:1
18356	F:1
18357	K:2
18358	K:2
18359	C:1
18360	B:3
18361	B:3
18362	A:5 B:3 C:6 D:6
18363	K:1
18364	A:4 B:3 C:12 D:6 H:2 K:1
18365	A:4 B:3 C:10 D:6 H:4 K:1
18366	B:1 C:5 D:1
18367	K:1
18368	K:1
18369	C:1
18370	H:1
18371	K:1
18372	B:4
18373	B:2 C:24
18374	C:1
18375	B:1
18376	B:1
18377	B:1 H:2
18378	A:2
18379	H:3
18380	A:3
18381	A:2
18382	A:1
18383	F:1
18384	C:1 K:1
18385	C:2
18386	A:11
18387	K:2
18388	H:1 I:2
18389	I:3
18390	K:1
18391	K:1
18392	C:22
18393	C:1
18394	F:4 K:1
18395	F:1 K:1
18396	B:4
18397	A:1
18398	D:1
18399	B:3
18400	F:8
18401	K:3
18402	C:17
18403	A:7
18404	H:1
18405	F:1 K:2
18406	K:1
18407	A:2
18408	B:2
18409	K:1
18410	A:1
18411	H:3
18412	H:1
18413	A:1
18414	B:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18415	C:5
18416	K:2
18417	B:2 C:1
18418	K:1
18419	H:13
18420	C:2
18421	F:1 K:4
18422	K:2
18423	A:1
18424	B:2
18425	A:1
18426	I:3
18427	A:1
18428	K:2
18429	K:3
18430	D:1
18431	B:2
18432	H:1
18433	H:1
18434	H:1
18435	F:1 K:1
18436	F:1
18437	F:1
18438	A:2
18439	A:2
18440	K:2
18441	F:2 K:1
18442	K:1
18443	K:1
18444	K:1
18445	K:1
18446	C:34
18447	B:8 C:26
18448	H:2
18449	C:24
18450	A:3 B:3 D:1
18451	A:5 B:1
18452	A:2 B:2 C:1 H:2
18453	B:1
18454	K:1
18455	B:1
18456	B:1
18457	C:1
18458	A:2
18459	K:1
18460	A:1
18461	A:3
18462	H:3
18463	A:6
18464	H:3
18465	D:1
18466	F:1
18467	H:2
18468	B:1
18469	H:1
18470	C:1
18471	H:2
18472	H:1
18473	A:1
18474	K:3
18475	A:1
18476	F:1 K:2
18477	F:2
18478	A:2 B:66 C:96 D:3 F:3 H:114 I:3 J:1 K:5
18479	K:1
18480	K:1
18481	H:1
18482	A:1
18483	A:1
18484	A:2
18485	F:1 K:1
18486	B:1
18487	A:5
18488	K:1
18489	F:1
18490	C:9
18491	H:4
18492	A:12
18493	A:3
18494	A:5 C:1
18495	A:2 B:2
18496	C:2
18497	F:6 K:1
18498	B:4
18499	K:1
18500	F:9 K:1
18501	K:2
18502	K:1
18503	H:1
18504	H:1
18505	F:1 K:11
18506	H:1
18507	C:52

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18508	C:27
18509	C:1
18510	C:1
18511	C:1
18512	F:10 K:3
18513	K:2
18514	C:6
18515	B:4 C:4 H:1
18516	A:1 B:4 C:5
18517	B:7 C:6
18518	B:7 C:8 D:2
18519	B:18 C:17 K:1
18520	C:1
18521	B:1
18522	J:1
18523	B:1
18524	B:1
18525	C:1
18526	B:1
18527	C:1
18528	A:1
18529	H:1
18530	B:1
18531	B:1
18532	A:1
18533	K:1
18534	B:1
18535	H:1
18536	B:1
18537	K:1
18538	B:1
18539	C:1
18540	C:1
18541	C:1
18542	C:1
18543	B:1
18544	C:1
18545	C:1
18546	C:1
18547	B:3
18548	B:7 F:4 K:7
18549	A:2 B:6 C:34 D:4 H:8
18550	C:1
18551	C:1
18552	K:3
18553	K:1
18554	D:1
18555	B:2
18556	K:2
18557	F:3 K:3
18558	K:3
18559	F:1 K:1
18560	F:6
18561	C:12
18562	H:2
18563	J:1
18564	H:1
18565	F:13 K:1
18566	B:3
18567	B:3 C:1
18568	H:2
18569	K:1
18570	K:1
18571	F:1
18572	K:1
18573	K:1
18574	H:2
18575	F:5 K:3
18576	C:6
18577	A:2 C:1
18578	B:3
18579	A:1 K:1
18580	K:1
18581	F:4 K:2
18582	H:1
18583	A:1
18584	C:45
18585	H:1
18586	K:1
18587	K:1
18588	K:1
18589	D:1
18590	A:6
18591	F:2
18592	A:4 B:1
18593	F:8 K:1
18594	B:5
18595	B:1
18596	A:1 B:1 H:2
18597	K:3
18598	C:102
18599	F:4 K:16
18600	F:10 K:1
18601	F:10

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18602	F:1 K:1
18603	B:2
18604	A:1 K:1
18605	F:1
18606	A:1
18607	A:1
18608	F:1 K:2
18609	A:1
18610	I:1 K:1
18611	A:1
18612	B:2
18613	F:2 K:1
18614	K:1
18615	K:1
18616	F:14 K:5
18617	F:1
18618	A:1
18619	K:2
18620	H:1
18621	F:2 K:21
18622	A:1
18623	F:1
18624	A:1 B:1 C:1 D:2 F:1 K:26
18625	D:2 K:3
18626	K:1
18627	F:1
18628	K:2
18629	K:1
18630	H:5
18631	H:2
18632	C:1
18633	C:1
18634	C:1
18635	B:1
18636	B:2
18637	F:1 K:4
18638	H:1 K:1
18639	H:1
18640	A:3
18641	F:1 K:2
18642	F:3 K:11
18643	F:1 K:2
18644	C:2
18645	A:13
18646	C:1
18647	A:1
18648	D:1
18649	F:5
18650	B:3
18651	F:2
18652	A:4
18653	K:4
18654	A:1 C:1
18655	H:3
18656	B:2
18657	A:1 F:1 K:2
18658	C:5
18659	K:1
18660	C:1
18661	H:3
18662	K:4
18663	B:3
18664	K:3
18665	K:1
18666	A:3
18667	A:1
18668	C:3
18669	B:2 C:1
18670	A:2
18671	C:1
18672	F:6 K:5
18673	F:1
18674	D:1 K:1
18675	H:2
18676	H:11
18677	C:27
18678	I:1
18679	K:1
18680	K:2
18681	F:2
18682	I:3
18683	C:38
18684	C:1
18685	F:1 H:2 K:8
18686	C:1
18687	B:4 C:1
18688	B:2
18689	K:1
18690	F:1
18691	A:29 B:47 C:41 D:1 F:1 J:3 K:5
18692	K:1
18693	C:1
18694	K:1
18695	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18696	F:1
18697	K:1
18698	D:1
18699	B:1
18700	A:1
18701	H:1
18702	A:1
18703	B:1
18704	C:1
18705	B:1
18706	K:3
18707	C:1
18708	C:1
18709	C:1
18710	A:1
18711	K:1
18712	C:1
18713	A:1
18714	B:1
18715	B:1
18716	H:1
18717	C:1
18718	A:1
18719	C:1
18720	H:1
18721	D:1 H:1
18722	J:1
18723	C:1
18724	C:1
18725	B:1
18726	B:1
18727	B:1
18728	C:1
18729	B:1
18730	C:1
18731	C:1
18732	C:1
18733	B:1
18734	C:1
18735	C:50
18736	H:1
18737	B:1
18738	I:1
18739	C:1
18740	C:8
18741	I:1
18742	C:1
18743	A:1
18744	H:1
18745	H:1
18746	C:1
18747	D:1
18748	C:1
18749	K:1
18750	C:1
18751	C:1
18752	A:2
18753	B:1
18754	H:1
18755	C:1
18756	C:4
18757	H:1
18758	F:1
18759	B:1 C:5 F:6 H:9 K:4
18760	A:1
18761	A:1
18762	B:1
18763	H:1
18764	C:1
18765	H:1
18766	H:1
18767	A:1
18768	A:1
18769	C:1
18770	B:1
18771	H:1
18772	H:1
18773	H:1
18774	H:1
18775	C:1
18776	D:1
18777	H:1
18778	I:1
18779	A:1 H:1
18780	C:1
18781	C:1
18782	E:1
18783	B:1
18784	A:1
18785	H:1
18786	C:1
18787	C:1
18788	C:1
18789	F:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18790	C:1
18791	A:7
18792	B:3
18793	F:8
18794	I:2
18795	C:5
18796	C:10
18797	A:1
18798	A:2
18799	K:2
18800	B:2
18801	K:3
18802	A:1 C:1
18803	B:9 C:3 K:1
18804	H:2
18805	B:2
18806	B:2
18807	F:8 K:2
18808	B:3
18809	B:1
18810	A:2
18811	B:2
18812	B:3
18813	A:2
18814	D:1 F:1 K:12
18815	B:2
18816	K:2
18817	K:2
18818	K:3
18819	K:2
18820	F:2
18821	F:4 K:1
18822	K:1
18823	K:1
18824	K:1
18825	A:2
18826	K:3
18827	K:1
18828	A:1 H:1
18829	I:2
18830	K:2
18831	K:2
18832	K:4
18833	B:1
18834	K:2
18835	F:1 K:1
18836	K:1

Seq Id No.	Tissue distribution
18837	C:1
18838	B:8 C:1
18839	K:2
18840	A:8 K:1
18841	A:7 K:1
18842	H:3
18843	F:1 K:1
18844	A:1 C:1
18845	F:1 K:2
18846	B:2
18847	F:1 K:1
18848	A:2
18849	K:3
18850	C:1
18851	C:2
18852	F:19 K:8
18853	K:1
18854	K:1
18855	K:1
18856	F:1
18857	K:1
18858	K:1
18859	K:3
18860	H:1
18861	F:3
18862	K:2
18863	K:2
18864	F:1
18865	K:1
18866	F:17 K:2
18867	F:3 K:1
18868	H:3
18869	A:1 B:1
18870	C:2 J:1
18871	C:6 J:1
18872	C:1 J:4
18873	C:4 J:1
18874	A:4 C:1 J:1
18875	F:1 K:4
18876	H:2
18877	K:4
18878	K:4
18879	K:1
18880	F:1 K:2
18881	K:1
18882	F:1 K:1
18883	F:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18884	F:2 K:2
18885	H:3 K:2
18886	A:4
18887	C:1
18888	K:1
18889	H:2
18890	A:3
18891	F:5 K:1
18892	K:3
18893	K:1
18894	D:1
18895	F:1 K:2
18896	A:2
18897	C:2 H:1
18898	K:2
18899	C:1 H:3
18900	F:1 K:1
18901	A:3
18902	K:4
18903	F:1 K:1
18904	B:2
18905	F:1
18906	F:1
18907	F:1
18908	K:3
18909	F:1
18910	K:1
18911	A:9 B:7 C:11 D:1 H:4 K:1
18912	F:1
18913	H:1
18914	F:1
18915	C:1
18916	K:3
18917	B:5
18918	B:1
18919	B:3
18920	F:1
18921	A:1 C:1 H:1
18922	F:1
18923	F:1
18924	H:1
18925	F:1
18926	F:1
18927	B:1
18928	F:1
18929	F:1
18930	I:3
18931	F:1
18932	K:1
18933	K:5
18934	F:1 K:2
18935	B:2
18936	F:3 K:1
18937	A:3 C:1
18938	K:1
18939	K:1
18940	K:2
18941	F:1 K:1
18942	K:1
18943	C:18
18944	A:1 C:10
18945	F:2 K:1
18946	A:8
18947	H:1
18948	A:1
18949	A:1
18950	F:3 K:8
18951	F:11 K:13
18952	F:1
18953	B:2
18954	K:2
18955	K:1
18956	C:1 H:8
18957	D:2
18958	F:7 K:2
18959	D:1
18960	I:1
18961	K:1
18962	K:1
18963	K:1
18964	C:10
18965	C:1
18966	H:2
18967	C:42
18968	F:2 K:2
18969	F:2 K:2
18970	B:3
18971	C:1 F:5 H:4 K:7
18972	K:1
18973	F:1
18974	F:2 K:1
18975	K:3
18976	D:2
18977	C:1 D:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
18978	K:2
18979	K:2
18980	H:5
18981	D:2
18982	F:1 K:3
18983	B:1
18984	A:2 C:5 J:2 K:1
18985	B:5 C:1
18986	A:6 F:1
18987	F:4 K:1
18988	F:1 K:9
18989	K:3
18990	F:1
18991	F:1 K:1
18992	F:67 K:329
18993	K:1
18994	K:1
18995	K:1
18996	F:1
18997	K:1
18998	F:21 K:9
18999	F:3 K:1
19000	K:1
19001	K:1
19002	A:28 B:11 C:32 D:5 F:11 H:6 K:8
19003	A:1
19004	B:1
19005	A:3
19006	H:1 K:3
19007	F:1 K:2
19008	F:8 K:1
19009	A:4
19010	H:2
19011	F:3 K:1
19012	A:1
19013	A:1
19014	A:1
19015	A:1
19016	F:1
19017	F:3 K:3
19018	A:1
19019	K:3
19020	A:3
19021	A:135
19022	H:6
19023	F:5 K:15
19024	F:5 K:15
19025	B:2
19026	A:2
19027	K:1
19028	I:2
19029	F:1 K:1
19030	K:2
19031	F:2 K:3
19032	F:1
19033	K:1
19034	K:1
19035	B:4
19036	H:1
19037	H:1 K:4
19038	A:3
19039	K:5
19040	K:1
19041	K:1
19042	K:1
19043	A:3
19044	E:2
19045	F:21 K:3
19046	K:3
19047	K:1
19048	H:3
19049	K:2
19050	K:2
19051	C:2 J:1
19052	I:4
19053	K:2
19054	F:1 K:2
19055	A:3
19056	B:2
19057	C:1 D:1
19058	A:1 D:1
19059	A:2
19060	B:3
19061	A:1
19062	C:6
19063	K:3
19064	K:4
19065	B:1
19066	H:1
19067	B:1
19068	A:27 B:5 C:4 D:2 H:3 I:5
19069	A:1
19070	K:1
19071	A:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
19072	H:1
19073	F:2
19074	A:1 H:1
19075	A:1
19076	A:1
19077	F:1
19078	K:2
19079	C:2
19080	F:2 K:10
19081	F:5
19082	F:2 K:1
19083	F:2 I:1
19084	H:1
19085	H:2
19086	H:2
19087	A:1 B:1 I:1
19088	C:2
19089	K:4
19090	B:2
19091	B:2
19092	F:3 H:1 K:1
19093	C:1 H:2
19094	F:1 K:1
19095	A:4
19096	F:23 K:4
19097	F:1
19098	F:1
19099	F:1
19100	F:1
19101	F:1 K:2
19102	K:2
19103	B:4
19104	A:5
19105	B:2
19106	H:12
19107	F:1 K:2
19108	H:14
19109	C:5
19110	K:2
19111	K:4
19112	C:2
19113	K:2
19114	A:1 H:1
19115	A:1 C:18 F:1 K:3
19116	C:1
19117	C:10
19118	F:1

Seq Id No.	Tissue distribution
19119	K:1
19120	D:1 H:1
19121	C:92
19122	B:1 D:1 H:7 J:1
19123	H:1
19124	H:1
19125	H:2
19126	H:1
19127	K:3
19128	F:6 K:1
19129	K:3
19130	C:3
19131	K:2
19132	F:17 K:9
19133	F:8 K:2
19134	C:1
19135	H:1 I:1
19136	B:2
19137	K:2
19138	C:6 H:2
19139	B:1
19140	A:1
19141	C:16
19142	H:2
19143	K:1
19144	K:1
19145	A:1
19146	C:1
19147	A:5
19148	A:9 F:1 H:2 I:4
19149	A:2
19150	B:2
19151	A:2 K:1
19152	A:1
19153	K:1
19154	A:1
19155	K:1
19156	A:1
19157	A:1
19158	A:1
19159	C:31
19160	K:1
19161	K:5
19162	K:1
19163	F:5 K:1
19164	B:3
19165	H:2

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
19166	F:3
19167	B:2
19168	C:57
19169	F:8 K:2
19170	K:3
19171	F:1
19172	F:1
19173	F:1
19174	K:3
19175	F:2
19176	F:2
19177	C:35
19178	C:2
19179	H:2
19180	A:4
19181	F:1 K:1
19182	F:2 K:1
19183	K:1
19184	H:1
19185	I:2
19186	B:3
19187	A:3
19188	K:2
19189	K:2
19190	F:9 K:2
19191	F:11 K:3
19192	F:1 K:1
19193	C:1 J:1
19194	F:14 K:1
19195	H:1
19196	H:1
19197	H:1
19198	H:1
19199	H:1
19200	H:1
19201	H:1
19202	H:1
19203	H:1
19204	H:1
19205	K:2
19206	H:1
19207	H:1
19208	H:1
19209	H:1
19210	H:1
19211	H:1
19212	H:1
19213	H:1
19214	H:1
19215	H:1
19216	H:1
19217	H:1
19218	H:1
19219	H:1
19220	H:1
19221	H:1
19222	H:1
19223	H:1
19224	H:1
19225	H:1
19226	H:1
19227	H:1
19228	H:1
19229	H:1
19230	H:1
19231	H:1
19232	H:1
19233	H:1
19234	H:1
19235	H:1
19236	H:1
19237	F:1 K:4
19238	H:1
19239	H:1
19240	H:1
19241	H:1
19242	H:1
19243	H:1
19244	H:1
19245	H:1
19246	H:1
19247	H:1
19248	H:1
19249	H:1
19250	H:1
19251	H:1
19252	H:1
19253	H:1
19254	H:1
19255	H:1
19256	H:1
19257	H:1
19258	H:1
19259	H:1

TABLE V
(Spatial distribution)

Seq Id No.	Tissue distribution
19260	H:1
19261	H:1
19262	H:1
19263	H:1
19264	H:1
19265	H:1
19266	H:1
19267	H:1
19268	H:1
19269	H:1
19270	H:1
19271	H:1
19272	H:1
19273	H:1
19274	H:1
19275	H:1
19276	H:1
19277	H:1
19278	H:1
19279	H:1
19280	H:1
19281	H:1
19282	K:2
19283	H:1
19284	H:1
19285	H:1
19286	H:1
19287	H:1
19288	H:1
19289	H:1
19290	H:1
19291	H:1
19292	C:3
19293	H:1
19294	H:1
19295	H:1
19296	H:1
19297	H:1
19298	H:1
19299	H:1
19300	H:1
19301	H:1
19302	H:1
19303	K:2
19304	H:1
19305	H:1
19306	H:1
19307	H:1
19308	H:1
19309	H:1
19310	H:1
19311	H:1
19312	H:1
19313	H:1
19314	K:2
19315	H:1
19316	H:1
19317	H:1
19318	H:1
19319	H:1
19320	H:1
19321	H:1
19322	H:1
19323	H:1
19324	H:1
19325	C:39 D:1
19326	H:1
19327	H:1
19328	H:1
19329	H:1
19330	H:1
19331	H:1
19332	H:1
19333	H:1
19334	H:1
19335	H:1

TABLE VI
(Tissue type)

Letter Code	Tissue type
A	Brain
B	Fetal Brain
C	Fetal Kidney
D	Fetal Liver
E	Hypophysis
F	Liver
G	Placenta
H	Prostate
I	Salivary Gland
J	Stomach/Intestine
K	Testis

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
38	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
43	fetal Kidney	
91	Testis, fetal Kidney	
135	Liver, Testis, fetal Kidney	Brain, Prostate, fetal Brain, fetal Liver
159	Testis	fetal Kidney
181	Brain, Liver, Testis, fetal Brain, fetal Liver	fetal Kidney
304	Testis, fetal Kidney	Brain
365	fetal Kidney	Testis
566	Brain, Prostate, fetal Kidney	Liver, Testis
579	fetal Kidney	
582		fetal Kidney
686	Brain, Testis	fetal Kidney
697	Testis	
715	fetal Kidney	
769	Testis, fetal Kidney	
778	fetal Kidney	Testis
790	Brain, Liver, Testis	Prostate
818	Testis	fetal Kidney
819	Testis	fetal Kidney
873	Liver, Testis	fetal Brain
881	Liver, Testis, fetal Kidney	Brain, Prostate
909	Testis	Brain
937	Testis	
994	fetal Kidney	
1088	Liver, Testis	fetal Brain
1089	Liver	
1091	fetal Kidney	
1144	fetal Kidney	Testis
1172	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney	
1180	Brain, Prostate, fetal Kidney	Testis
1185	Brain	Testis
1186	Liver, Testis	Prostate, fetal Brain, fetal Liver
1203	fetal Kidney	
1210	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
1245	Testis	fetal Kidney
1250	Brain, fetal Kidney	Liver
1251	Brain,Stomach/Intestine, Testis, fetal Kidney, fetal Liver	Liver, Prostate
1252	Brain, fetal Kidney	Liver, Prostate
1261	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
1312	fetal Kidney	
1343	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
1345	Brain, Liver, Testis	fetal Brain, fetal Kidney
1346	Brain, Liver, Testis	Prostate, fetal Brain, fetal Kidney
1362	fetal Kidney	
1377	fetal Kidney	
1408		fetal Kidney

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
1409	Testis	fetal Kidney
1415	Liver,Stomach/Intestine, Testis, salivary Gland	Brain, fetal Brain, fetal Liver
1416	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
1419		fetal Kidney
1516	Brain, Testis	fetal Kidney
1526	fetal Kidney	
1530	fetal Kidney	
1552	Testis, fetal Kidney	Brain
1563	Liver, Testis	fetal Kidney
1564	Liver, Testis	fetal Kidney
1592		fetal Kidney
1596	Brain, Testis, fetal Kidney, fetal Liver	Liver, fetal Brain
1606	Brain, Liver, Prostate, Testis	fetal Kidney
1632	fetal Kidney	
1635	fetal Kidney	
1643	fetal Kidney	
1649	Brain, fetal Brain, fetal Kidney	Testis
1669	Brain, Prostate, fetal Brain, fetal Kidney	Testis
1677	Brain, fetal Kidney	Liver, Testis
1683		fetal Kidney
1750	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
1775	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney	
1787	fetal Kidney	
1803	Liver, Testis, fetal Kidney	Brain
1806	fetal Kidney	
1808	Liver, Testis, fetal Kidney	
1819		fetal Kidney
1860	Brain, fetal Kidney	Testis
1863	fetal Kidney	
1867	Liver, Prostate, Testis	fetal Brain
1972	fetal Kidney	
1973	Brain, Liver, Prostate, Testis	fetal Kidney
2005	Brain, Liver, Testis	fetal Kidney
2006	fetal Kidney	
2009	Brain, Liver, Testis	Prostate, fetal Kidney
2017	Brain, Prostate, fetal Kidney	Testis, fetal Brain
2082	Brain, Liver, Testis, fetal Brain	fetal Kidney
2100	Brain, Prostate, fetal Brain, fetal Kidney	Testis
2367	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver	Testis
2379	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
2384	Brain, Prostate, fetal Brain, fetal Kidney	Liver
2411	Liver, Testis	Brain, fetal Brain
2453	Brain, Prostate, fetal Brain, fetal Kidney	Testis
2485	Testis, fetal Kidney	Brain

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
2487	Brain, Liver, Testis	Prostate, fetal Brain, fetal Liver
2508	Brain, Prostate, fetal Brain, fetal Kidney	Testis
2545	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney	
2587	fetal Kidney	
2608	Brain, Liver, Testis	Prostate, fetal Brain, fetal Kidney
2612	fetal Kidney	
2614	fetal Kidney	
2623	Brain, Prostate, fetal Kidney	Liver, Testis
2652	Prostate, fetal Brain	Brain, Testis
2660	fetal Kidney	
2671	Brain, Liver, Testis	fetal Kidney
2673		fetal Kidney
2675	Brain, Prostate, fetal Brain, fetal Kidney	Testis
2728	Liver, Testis	fetal Brain, fetal Liver
2743		fetal Kidney
2761		fetal Kidney
2766	Brain	fetal Kidney
2768	Brain	fetal Kidney
2769	Liver, Prostate, Testis	fetal Kidney
2772		fetal Kidney
2815	Liver, Testis	fetal Brain
2828	Brain, Testis	fetal Kidney
2845	Brain, Liver, Prostate, Testis	fetal Brain, fetal Kidney
2863	Prostate, fetal Kidney	Liver, Testis
2870	Testis, fetal Kidney	
2874	Brain, fetal Kidney	Testis
2881	fetal Kidney	
2931	Brain, Liver, Testis	Prostate
2933	Liver, Prostate, Testis	fetal Kidney
2938	Brain, Liver, Testis, salivary Gland	Prostate, fetal Liver
2940	Brain, Liver, Testis, fetal Kidney	Prostate
2945	Testis, fetal Kidney	Brain
2968	fetal Kidney	
2981	Liver, Testis	fetal Kidney
3005	Brain, Prostate	Testis
3034	fetal Kidney	
3047		fetal Kidney
3084	fetal Kidney	
3099		fetal Kidney
3121	fetal Brain, fetal Kidney	Liver, Testis
3122	fetal Brain, fetal Kidney	Liver, Testis
3133	Brain, Liver, Testis	fetal Kidney
3144	Liver, Testis	fetal Brain, fetal Kidney
3145		Testis
3149	fetal Kidney	
3156	Brain, Liver, Prostate, Testis, fetal Brain	

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
3172	Testis	fetal Kidney
3178		fetal Kidney
3182		fetal Kidney
3204	Liver, Testis	
3250	Liver	
3251	fetal Kidney	Testis
3252	Liver, fetal Kidney	
3253	Liver, fetal Kidney	
3254	Brain, Liver, Stomach/Intestine, fetal Brain, fetal Kidney, salivary Gland	Prostate
3290		fetal Kidney
3343	Brain, Liver, Stomach/Intestine, Testis, salivary Gland	fetal Brain, fetal Kidney, fetal Liver
3344	Testis	fetal Kidney
3362	Brain, Prostate, fetal Brain, fetal Liver	Testis
3363	Brain, Prostate, fetal Brain	Testis
3364	Brain, Prostate, fetal Brain, fetal Liver	Testis
3369	Liver, Testis, fetal Kidney	Brain
3384		fetal Kidney
3422	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver	Testis
3430	Brain, fetal Kidney	Testis
3457	fetal Kidney	
3466	Liver, Prostate, Testis, fetal Kidney	Brain, fetal Brain, fetal Liver, salivary Gland
3482	fetal Kidney	
3509	Brain, Liver, Testis	fetal Kidney
3555		fetal Kidney
3556	Brain	fetal Kidney
3564	Testis, fetal Kidney	Brain
3568	Brain, Liver, Prostate, Testis	fetal Brain
3569	Liver, Testis	fetal Brain, fetal Kidney
3582	Testis, fetal Kidney	
3584	Testis, fetal Kidney	Brain
3593	Brain, fetal Kidney	Testis
3601		fetal Kidney
3612	Testis	
3618	Liver, Testis, fetal Kidney	Prostate
3664	Brain, Stomach/Intestine, Testis, fetal Brain, fetal Liver, salivary Gland	Liver, Prostate
3666	Brain, fetal Brain, fetal Kidney	Liver, Prostate
3701	fetal Kidney	
3738	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
3744	Liver, Testis	fetal Kidney
3753	Testis	
3756		fetal Kidney
3775	Testis	fetal Kidney
3778	fetal Kidney	

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
3779	Liver, Prostate, Testis	fetal Brain, fetal Kidney
3780	Brain, Liver, Prostate, Testis	fetal Brain, fetal Kidney
3793	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
3794	Liver, Prostate, Testis, fetal Brain, fetal Kidney, fetal Liver	Brain
3826	Liver, Prostate, Testis	fetal Brain, fetal Kidney
3827	Brain, Prostate, fetal Brain, fetal Kidney	Testis
3839	fetal Kidney	
3840	fetal Kidney	
3848	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
7872	Brain, Prostate, fetal Brain, fetal Kidney, fetal Liver	Testis
8884	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
9093	fetal Kidney	
9177	Liver, Prostate, Testis, fetal Brain, fetal Kidney, fetal Liver	Brain
9185	Liver, Prostate, Stomach/Intestine, Testis, fetal Brain, fetal Kidney, fetal Liver	Brain
9217	Testis	fetal Kidney
9396	Brain, Prostate, fetal Brain, fetal Kidney	Testis
9411	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Testis
9731	fetal Kidney	
9800	Brain, Liver, Testis	fetal Kidney
9880	Brain, fetal Kidney	Testis
9918		fetal Kidney
10295	Brain, Liver, Testis	Prostate, fetal Kidney
11067	Brain, Liver, Testis	Prostate, fetal Kidney
11747	fetal Kidney	
12327	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
13449	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
13627	Brain, Liver, Testis, fetal Brain, fetal Kidney	Prostate
13767	fetal Kidney	
14546	Liver, Testis	
14654	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
15013	Liver, Prostate	
15129	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
15141	Testis	fetal Kidney
15196	Brain, Testis	fetal Kidney
15200	Brain, Liver, Testis	fetal Brain, fetal Kidney, fetal Liver
15202	Brain, Liver, Testis	fetal Brain, fetal Kidney, fetal Liver
15244	Brain, Liver, Testis, fetal Kidney	
15294	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Liver
15297	fetal Kidney	Testis
15301		fetal Kidney
15341	Brain, Liver, Prostate, Testis	fetal Kidney

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
15405	Liver	
15419	Brain, Prostate, fetal Brain, fetal Kidney	Testis
15453	Brain, Prostate, fetal Brain, fetal Kidney	Testis
15490	Brain, Liver, Prostate, Testis, fetal Brain, salivary Gland	fetal Kidney
15512	fetal Kidney	
15520	Brain, Liver, Testis	Prostate, fetal Brain, fetal Kidney
15542	Liver, Prostate, Stomach/Intestine, Testis, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Brain
15553	Brain, Liver, Testis, fetal Kidney	Prostate
15557		fetal Kidney
15558		fetal Kidney
15568	Liver, Testis, fetal Kidney	Brain
15573	Liver, Testis	fetal Brain, fetal Kidney
15594	Testis, fetal Kidney	
15613	Brain, fetal Kidney	Liver
15640	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
15651	Testis	fetal Kidney
15658	Testis	
15659	fetal Kidney	Testis
15678	fetal Kidney	
15685	fetal Kidney	
15711	Brain, Liver, Testis	Prostate, fetal Brain, fetal Kidney
15747	Brain, Liver, Stomach/Intestine, Testis, fetal Brain, fetal Liver	Prostate
15748	Liver, Testis	Prostate, fetal Brain, fetal Kidney
16065		fetal Kidney
16072	fetal Kidney	
16091	Brain, Liver, Prostate, Testis	fetal Kidney
16127	Brain, Liver, Testis, fetal Brain, fetal Kidney	Prostate
16151	Brain, Liver, Prostate, Testis	fetal Kidney
16153	Brain, Prostate, fetal Brain, fetal Kidney	Testis
16182	fetal Kidney	
16185	Brain, Liver, Prostate, Testis	fetal Kidney
16191	fetal Kidney	
16192	fetal Kidney	
16237	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
16238	Liver, Prostate, Stomach/Intestine, Testis, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Brain
16243	fetal Kidney	
16248	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver	Liver
16277	fetal Kidney	
16302	Brain, Prostate, fetal Kidney	Testis
16312		fetal Kidney
16332	Brain, Liver, Prostate, Testis	fetal Kidney
16351	Brain, Testis	fetal Kidney
16352	Brain, Liver, Prostate, Testis	fetal Kidney

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
16393	Liver, Prostate, Testis	fetal Kidney
16396	Liver, Testis	fetal Brain
16411	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Stomach/Intestine
16477	Brain, Liver, Prostate, Testis; fetal Brain	fetal Kidney
16497	fetal Kidney	Testis
16597	fetal Kidney	
16657	Liver, Prostate, Testis	fetal Brain
16684	fetal Kidney	
16738	Brain, fetal Kidney	
16776	Brain, Liver, Testis	fetal Kidney
16790	Brain, Liver, Testis, salivary Gland	Prostate, fetal Liver
16865	Brain, Testis	fetal Kidney
16867	Brain, fetal Kidney	Liver
16878	Brain, Prostate, fetal Brain, fetal Kidney	Testis
16905	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney	
16959	fetal Kidney	
17143	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
17166	fetal Kidney	
17167	Brain, fetal Kidney	Testis
17178	Brain, Prostate, fetal Brain, fetal Kidney	Liver
17197	fetal Kidney	
17198	Brain, fetal Kidney	
17224	fetal Kidney	
17266	Testis, fetal Kidney	
17268	Brain, Prostate, fetal Brain, fetal Kidney	Testis
17269	Brain, Prostate, fetal Brain, fetal Kidney	Testis
17330	Brain, Liver, Testis, fetal Kidney	
17350	Brain, Testis	fetal Kidney
17351	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
17383	Brain, Testis	fetal Kidney
17391	Brain, Liver, Testis	fetal Kidney
17412	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
17477	fetal Kidney	
17488	Brain, fetal Kidney	Testis
17530	Brain, Liver, Prostate, Testis	fetal Kidney
17541	Brain, Prostate, fetal Brain, fetal Kidney	Testis
17565	Liver, Prostate, Testis, fetal Kidney	Brain
17572	Brain, Liver, Testis	fetal Brain, fetal Kidney
17580	Liver, Testis	fetal Brain, fetal Kidney
17638	fetal Kidney	Testis
17640	fetal Kidney	
17644	Brain, Liver, Prostate, Stomach/Intestine, Testis, fetal Brain, fetal Liver, salivary Gland	fetal Kidney
17652	Brain, Prostate, fetal Kidney	Testis
17706	fetal Kidney	
17710	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney

(Biais in spatial distribution)

Seq Id No.	Low frequency	High frequency
17712	fetal Kidney	
17717	Brain, Liver, Prostate	fetal Brain, fetal Kidney
17748	Testis	fetal Kidney
17774		fetal Kidney
17796	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
17820		fetal Kidney
17850	Brain, Liver, Prostate, Testis	fetal Kidney
17881	Brain, Prostate, fetal Brain, fetal Kidney, fetal Liver	Liver, Testis
17883	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
17913	Brain, Liver, Prostate, Testis, fetal Brain, fetal Liver	fetal Kidney
17970	Liver, Prostate, Stomach/Intestine, Testis, fetal Brain, fetal Kidney, fetal Liver	Brain
17989		fetal Kidney
18074	Brain, Testis, fetal Kidney	
18085	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
18126	Brain, Prostate, fetal Brain, fetal Kidney	Liver, Testis
18130	Brain, Liver, Prostate, Testis, fetal Brain, fetal Kidney	
18174	Prostate, Testis, fetal Kidney	fetal Brain
18182		fetal Kidney
18289	Brain, Testis	fetal Brain, fetal Kidney
18301	fetal Kidney	
18322		fetal Kidney
18325	Testis	fetal Kidney
18331	Brain, Testis	fetal Kidney
18364		fetal Kidney
18373		fetal Kidney
18392		fetal Kidney
18446	Testis	fetal Kidney
18447	Testis	fetal Kidney
18449		fetal Kidney
18478	Brain, Liver, Stomach/Intestine, Testis, fetal Liver	Prostate, fetal Brain, fetal Kidney
18507	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
18508		fetal Kidney
18519	Brain, Testis	fetal Kidney
18549	Brain, Liver, Testis	fetal Kidney
18584	Brain, Liver, Prostate, Testis	fetal Kidney
18598	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
18621	fetal Kidney	
18624	fetal Kidney	Testis
18677		fetal Kidney
18683	Brain, Testis	fetal Kidney
18691	Liver, Prostate, Testis	Brain, fetal Brain, fetal Kidney
18735	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
18852	fetal Kidney	

(Biais in spatial distribution)

Seq Id No.	Low frequency,	High frequency
18911	Testis	
18951	fetal Kidney	
18967	Brain, Liver, Testis	fetal Kidney
18992	Brain, Prostate, Stomach/Intestine, fetal Brain, fetal Kidney, fetal Liver, salivary Gland	Liver, Testis
18998	fetal Kidney	
19002	Testis	Brain, fetal Kidney
19021	Liver, Prostate, Testis, fetal Brain, fetal Kidney	Brain
19045	fetal Kidney	
19068	Liver, Testis, fetal Kidney	Brain
19096	fetal Kidney	
19115		fetal Kidney
19121	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
19132	fetal Kidney	
19159	Testis	fetal Kidney
19168	Brain, Liver, Prostate, Testis, fetal Brain	fetal Kidney
19177	Brain, Testis	fetal Kidney
19325	Brain, Liver, Testis	fetal Kidney